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- ▷ MAKE HIGH-IMPACT, LOW-COST COSMETIC CHANGES
- ▷ IMPROVE YOUR FLOOR PLAN WITHOUT ADDING ON



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Gente from Silverch Village would buy
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COVER PHOTOGRAPH BY KELLER & KELLER, STYLING BY ELLEN COLE

VISIT THIS OLD HOUSE ONLINE AT www.thisoldhouse.com or AOL Keyword: This Old House

PHOTOS: JOHN LUTY FOR THE COVER; JAMES HIGGINS FOR RIDGID; ILLUSTRATION: THE LUTY

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LETTERS



A WINDOW IN TIME

Just want to say thanks for the Emily file [in "Beginning a Window," *Upfront*, June 2004]. I just bought a 1930 farmhouse, and most of the windows could probably use re-glazing. I didn't have a clue how to do it, and now I do. Thank!

Steve Wacker, Houston, Texas, Wis.

DECK DETAILS

Last year we designed and built a fence around our pool using redwood with copper vertical balusters, so it was with some amazement that we saw "our" idea used on the cover and page 37 of the June 2004 issue. What beautiful decks. Thank you for your continuing inspiration and commitment to quality!

Billy Williams, Fort Worth, Calif.

TOO MUCH MULCH

We're now convinced there have to be at least three Roger Cooks, based on the answers/ opinions he gives about mulch.

In the May 2004 Ask This Old House, he condemns much for smothering and temperature issues. In another column, he says mulch is a naturally occurring plant ground cover. In the online "Helping Your Home to Flower" he says a layer of mulch on a planting bed helps suppress weeds, retain moisture, and moderate soil temperature. So now mulch is a good guy? Then he goes on to say that too much really doesn't attract termites since it doesn't have any wood in it. On top of that he adds that some mulches supply micronutrients and improve soil composition. So which is the real answer from the real Roger Cook?

A. DAVIS, BY E-MAIL

(THE REAL) ROGER COOK REPLIES: Much is anything that's good—any chocolate. A little is good, but a lot can become a problem. Part of the confusion stems from the term "mulch." It simply means anything used to cover the ground to prevent the soil from drying out and weeds from germinating. There are many types of mulches—compost, leaves, grass clippings, wood chips—all of which have pros and cons. Bark chips, the most commonly used, work well when applied 2 to 3 inches deep to a new bed, with another inch added the following year. But when it's added year after year and builds up to 6 to 8 inches, it becomes a problem. Termites don't eat bark mulch, but when it's built up too high against the house, it makes a convenient superhighway for these wood-eating insects. So all I'm saying is a little mulch goes a long way. And especially for large, sparsely planted areas, rather than continuously adding (and buying) mulch, why not plant low-maintenance ground covers in those open areas instead?

Beware of Flying Ants

My wife and I live in a 1940s New-England style cottage, and I have been a longtime fan of *This Old House*. Recently, when we saw a lot of (what we thought were) flying ants in our kitchen, we were not too worried. Only when I read Emily May Jew of the magazine and read "Battling Out Termites" did I think we might have more than just "flying ants." I called our exterminator, and sure enough, they were subterranean termites. They had come through the basement walls and eaten their way up into the outside wall of our kitchen. Luckily we had a contract with our local exterminator to do all of the treatments we needed, and we caught them before they were able to do too much damage.

Thank, and keep up the good work.
 Bob and Tracy Weller, Mableton, Ga.

punch list

Subscribers: A list of items incorrectly done or needed to be finished on a construction job.
 • In Don't Buy June 2004, for "Bathroom Renovation" the phone number for the contractor MDO Construction, should be 800-635-0650. The number that appeared is the fax number.

Letters read on *Upfront*: Don't forget to check out the online version of the magazine, *This Old House*, at www.thisoldhouse.com. It's the only place you can find all the latest news, tips, and photos from the magazine. And don't forget to check out the online version of the magazine, *This Old House*, at

college tuition: \$0

After you drop her off, needless to say.



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SAVING GRACE

BY BRUCE IRVING



he business end of an excavator is hardly a building-conservation tool, but there are times when it's an important part of conservation. Take a look inside Carlisle project (page 142) and you might be surprised—maybe even agonized—to see that we're not preserving every part of the Greek

Revival farmhouse. It's an issue we constantly face: When is something worth saving?

When it comes to an entire structure, such as our 19th-century ell, we have to consider how it was built, the utility of its design, and its architectural or historical importance. Our ell didn't score high on any of those points. It wasn't well built, its layout didn't lend itself to contemporary living, and it had little architectural merit compared with the main house and the barn. And that's an important distinction. Just because something is old doesn't automatically make it a preservation house run.

More often, the preservation decisions we make are on a smaller scale. Take the tale of two floors, both pine. On the Manchester project, Naeve and Ives spent a lot of time just chipping away pulling up vertical-grain longleaf heart pine, taking care not to break the tongue-or-rip the nails through, and then reinstalling it just as exactly. Why? Because wood like that costs \$15 to \$15 a square foot today and isn't always of the same quality. Cut to Carlisle, where everyone asked if we were planning to save the "wide pine floors." They may have lacked aesthetic and old, but that kind of flooring was one way to get architecture acceptance. We'll preserve our masterpiece for other things.

WHETHER IT'S A BUILDING OR AN ARCHITECTURAL DETAIL, WHEN IS SOMETHING WORTH SAVING?

With a more than just a matter of money, though. Often we find something whose value to the house transcends a cost-benefit analysis.

Often it's a feature that came to the building in the hands of the original craftsmen and that deserves to stay, even if the excavator ate it. For example, we chose to strip, repair, and repaint the Federal-style parlor at the Solon project rather than try to replace it. It cost a fortune, but now the original is on its way to another 200 years, and that's worth a lot.

And then there are times when maintaining a house's integrity and then go hand-in-hand, like restoring old windows because they fit the openings and other buildings well. In Carlisle, we've found such a carbo-play right beneath the demolished ell. The granite piers that crowned the top of the old foundation are beautiful, the result of a long-ago worker's talent. They'll find a new home as the yard—maybe as walls, posts, or stairs—and they'll stand as a testament to craftsmanship and the ongoing struggle to resist our throwaway culture. When it's worth it.

COMING IN OCTOBER

• SPECIAL ANNIVERSARY ISSUE
Looking back on 25 years of
This Old House

PLUS:

- All About Sase
- Celebrating House Plans
- The Right Tree for Your Yard

ON SALE SEPTEMBER 20



My little handyman is great **I say,**
"Okay, small, dark and handsome,
do your thing — get me
all the best home improvement shows — plus any
funny ~~sticks~~ from the '80s. Or shows about dolphins."

Then when I take a break from scraping windowsills or
whatever, I call up my menu and see a gem from my
own personal top 10 list of '80s comedy classics,
The Money Pit. **BUT** I don't watch it. Why?
Hey, I'm living it.

So I watch **FLipper** instead.



You've got a Tivo, Tivo gets it.



ON THE JOB



NORM ABRAM
Combination square

"No self-respecting carpenter would be caught dead without a business, but this is the specialty tool I get the most mileage out of: it's good for a bunch of uses, from laying out to checking for square to adjusting tools."

WE ASKED:
WHAT'S ONE
TOOL YOU
COULDN'T DO
WITHOUT?
HERE'S WHAT
THE TOH GUYS
ANSWERED



RICHARD TRETHEWEY
Basin wrench

"Anytime I'm under a sink, reaching up to attach a faucet, I think to myself, what in the world did people do before the basin wrench? I honestly don't think I could survive without it."



TOM SILVA
Tape measure

"If you don't have a way to measure things accurately, you'll end up with a crooked house. Measure with precision while framing and it's a snap to make the job level, plumb, and square. In fact, I carry two tapes—one on my tool apron and one on my belt—just in case I drop one."



ROGER COOK
Spade shovel

"I can do just about everything with a fiberglass-handled spade shovel—transplant, dig, move material, even pry up large stones. There are tools designed specifically for these tasks, but if I could only have one tool, this would be it."



KEVIN O'CONNOR
Power drill

"Since starting the renovation of my house, I can't count how many times I've reached for it. If I had to do all those tasks by hand, I'd still be at square one."



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—Scott Schelling

—Scott Schilling

Author: Richard H. Crumrine

1000-0000

• **Widely used**

- Properly grade soil (4% grade to street) away from foundation

- To reduce humidity when showering, open the window, turn on a vent fan, or set a dehumidifier
- Avoid vinyl wallpaper, which traps heat, condensation, trapped inside walls.

- Large areas of humid subtropical water vapor condensation (clouds) produces rain (clouds are 25% less likely to rain than dry)

- combine ridge and soffit vents for best air flow

* Use subject's effecting on the ground to form minute communicating and by so means

EXTREME REMODEL

[illegible]

5800 Sport Discs 900 4x4 950 4x4 955 4x4 960 4x4

discover neglected horses, and write popular kids' books about them, at her Colorado ranch with a helping hand from her sons to save John Deere tractors and other vintage vehicles.

I always wanted a horse ranch. When I got here, it was just me, my 40 acres and my John Deere. I had to build a house, rework the stable, sink the fences, you name it. It was a lot of work, but it's worth it. Look around. When do you think

 JOHN DEERE

Wolfgang Ruge, Editor

various job offers in order

Playing It Safe

Workshop- and yard-work-related accidents account for more than \$200,000 emergency-room visits each year, which makes a good case for keeping your eyes, ears, and hands protected. Of course, knowing where your safety glasses and ear protection are at any given moment is another thing altogether. A new kit from Gear-organized in style clear glasses for indoor work, tinted ones for outdoor use. Neoprene work gloves and soft earbuds, all in a streamlined case. *GearUp* \$39.95. www.gearup.com

—Derek Schiller

[BEFORE & AFTER]

Farmhouse Face-lift

TIME FRAME: 8 weeks **COST:** \$28,000

9544 Peaton, Minnesota homeowners Philip and Luck Chike wanted to improve the character and proportions of their 1930s farmhouse.



WHAT WAS THERE

- White horizontal siding
- Unattractive blind, deteriorating windows with narrow trim
- Unlovely, damaged stained-glass windows in the porch
- Dated front entry



WHAT THEY ADDED

- Vintage look vinyl siding with decorative trim
- Uniflair divided-light casements with wide trim and decorative mauling
- Octagonal windows in gable
- Divided-light front door flanked by porch lights

How did the homeowners alter the look of their home? It's, sure, before and after snapshots, plus a brief description of the project. In The Oldhouse, 180 Avenue of the Americas, 21st Floor New York, NY 10036

TOP FACTORS IN CHOOSING A CONTRACTOR: 1. Price 2. Endorsements 3. Service 4. Availability 5. Reputation 6. Quality 7. Experience

[TOP FLASHBACK: 1979]

A Gentle Tapping at the Door

BY RUSSELL MORRIS
TOP CREATIVE DIRECTOR/FOUNDER



Back when customers were controlled from a television trade—and hand-held monitors didn't exist—there was always tension in the control room. Too many people in too tight a space trying to follow too many TV screens. So there we were in *Don't* town, the very first *The Old House* project. We'd just received a few old radiators from the house and were ready to tackle a complicated scene. Halfway through, cameras rolling, there's a knock at the door, which was unusual because anyone who had the right to enter just came out. The actor was heading to a scene, and the leading costumed, rep, rep, rep. Finally, the scene ended. I stood up as a ball and flag open for the door. There in the snow, looking up at me, was an elderly gentleman, checking his coat. In a lively Boston Irish brogue, he asked, "I was just wondering what you were going to do with the old radiators." I had been ready to see someone's head roll, but wrong. I was embarrassed at the thought and touched by his request. Of course, I quickly told him he could take the whole lot.

Illustration: © 1979, Russ Morris. All rights reserved. Used by permission of The Old House Company, Inc. NY 10036



"Dog-gone-it!
The pink ceiling is turning white!"
Spot, The Ceiling Expert

"No one's going to the doghouse for making a mistake. It's Glidden Ceiling Paint with innovative EZ Track technology. It goes on pink and dries to a bright white so you can see if you've missed a spot. And it's so fast and easy to use, even my humans won't mess this job up. BottomLine.com More play time."

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Insurers Nose Around



Applying for homeowners insurance? Don't be surprised if you're asked where you went to college, what kind of pet you have—or even if you own a dog. A study by Mutual Group, for instance, asks about college experience and place of work—and offers a 5 to 10 percent discount to members of thousands of alumni associations and professional organizations. Most insurers ask about your dog if you own a pit bull or Rottweiler that may automatically count as a strike against you in getting standard coverage, although some, like State Farm, focus less on breed than on whether your pet has a history of aggressive behavior. Owners of exotic pets, including box carfish and other large reptiles, have it even harder. Questions about expensive jewelry are related to a policy's per-diem limit. Allstate's homeowners policy, for example, has a \$1,000-per-theft limit for jewelry thefts. Want more coverage for diamonds and brooches? Be prepared to pay extra.

—Jeff Berkeback



LENDING A HAND

The CM Home staff, crew, and families (above) take a break midway through a home visit. The volunteers, led by a May and sponsored by AmeriCorps, benefit homeowners whose houses need work beyond their physical or financial means. After washing out their values from paint, stain, and windows, they a stone walk, and upgrade the hardware. Connecticut homeowners Bud and Florio Hillyard, "We feel like we were the lucky!"

—Kathleen Henry

Don't Be Fooled by Fakes

If the price tag on that new circular saw seems too good to be true, chances are it is. According to the Power Tool Institute, knockoff tools are being peddled by contractors posing as certified reps. Trade show parking lots are a favorite bait, where "tops" claim they have to unload the hardware before flying home. Fakes have started

cropping up on Internet auction sites as well. Some even bear bogus UL stickers and manufacturer logos. According to industry sources, counterfeit products have caused electrocutions and even started fires. To protect yourself, purchase power tools only from reputable home centers or direct from the dealer.

—Scott Schilling



WHY DOESN'T HEISE A PRO? Buy a Pro for \$100. 50% don't want to spend the money. 25% don't have the money.

According to a survey by the National Association of the Remodeling Industry, 2004.



Important information:

LIPITOR® (atorvastatin calcium) is a prescription drug. It is used with a low-fat diet to lower cholesterol.

LIPITOR is not for everyone. It is not for those with liver problems. And it is not for women who are nursing, pregnant, or may get pregnant. It has not been shown to prevent heart disease or heart attacks.

If you take LIPITOR, tell your doctor if you feel any new muscle pain or weakness. This could be a sign of serious muscle side effects. Tell your doctor about all the medicines you take. They may help and/or cause drug interactions. Your doctor should do blood tests to check your liver function before and during treatment and may adjust your dose. The most common side effects are gas, constipation, stomach pain, and heartburn. They tend to be mild and often go away.

Please see additional important information on next page.

Here's a tip: You can be active, thin, young or old. The truth is that high cholesterol may have as much to do with your family genes as food. So even if you eat right and exercise, you still may need some help to lower your cholesterol. The good news is that adding LIPITOR can help. It can help lower your total cholesterol 39% to 49%. And it can also help lower your bad cholesterol 59% to 69%. (The average effect depends on the dose.) More than 18 million Americans have been prescribed LIPITOR. Talk to your doctor today. Find out if it's right for you. Call us at 1-888-LIPITOR or find us on the web at www.lipitor.com.



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Eat and Greet

Relocating the family room allowed for an eat-in kitchen that fits the whole gang.

By Heidi Davis, from our home redesign series

A kitchen/family room combination may be the favorite layout in many homes, but in Mandy and Bill Sherman's 1977 Tudor, the wide-open eat-in kitchen is the place to be. "You never know who'll be dropping in," says Mandy, who is one of nine siblings and mother to six children of her own. "We can easily gather the whole clan." In fact, the 15-by-28-ft space, which replaced a typical kitchen/family room combo, was designed for togetherness. Spacious work areas allow the couple to cook, as island with bar stool seating serves as a spot to do homework, and the large table sets up to right for informal meals.

To make the new kitchen even bigger, the couple extended its eating deck around back and added French doors for access. "It didn't make sense to drag barbecue through the house to get outside," says Mandy, who worked out the details of her plan with local architect Robin Price Zahle and kitchen designer Ned Heidebeck. Says Mandy: "Just by rethinking the space, we created the perfect kitchen for our large, close-knit family." (continued)

A new granite-topped island separates the kitchen from the eating area. Hite green walls and oak doors unite the spaces, which flow right out to the deck through French doors.

PHOTO: MARK SULLIVAN

A growing collection



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sinks and faucets See what's in bloom

The Plan

Revising two connected rooms allowed for a larger, state-of-the-art kitchen that's open to a generously sized eating area.



BEFORE: The dated kitchen had squeezed the oven cabinets, limited work space and no room for a kitchen table.

BIGGIE: With the new layout, the kitchen has efficient work space for two with room for friends and family to mingle. The island has bar seating, a convenient prep sink and cook with unit, a microwave, a second dishwasher and storage for cooking and school supplies.



WHAT THEY DID

① **CUT AND ENLARGE:** The old kitchen/family room was ripped out and the cooking area expanded by annexing an adjacent laundry closet. The laundry and family room were relocated. A screaming fireplace was removed and its room enlarged.

② **RECONFIGURE THE WORK ZONE:** A more efficient U shape replaced the kitchen's former cramped L, and created more counter and storage space. It's anchored by a large island.

③ **ADD DOORS AND WINDOWS:** Four French doors leading to the new deck make the room seem bigger and brighter. Matching interior doors lead to the dining room, the relocated family room and a new laundry/breakroom. Larger basement windows offer the same home garden views.

BEFORE



AFTER



COURTESY OF GE

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The Details

Vintage touches mix with contemporary finishes to give this kitchen a timeless look.



① An arched window—made of cherry like the rest of the cabinetry—dresses up the window above the sink and bridges the backs of upper cabinets. It is finished with a carved ornament found by the homeowner.

② The kitchen's rectangular backsplash has a mix of burnished marble and set in a running bond pattern. Their pattern complements the mosaic tile used on the countertop.



③ The island-side storage cupboard comes from the island's actual two custom cabinets made to look like freestanding furniture. Like the rest of the cabinets, it has recessed panel doors and painted-finish pulls and knobs.

④ The islandhouse cook and prep area. The cook surface is a double boiler/broiler insert handy for preserving pasta and veggies. The island's faucet's pullout spray is designed to fill the cook sink or rinse off ingredients in the prep sink's colander insert.

⑤ Deck seating allows for spillover from the island kitchen where the soft air is good. Unobtrusive metal endcaps don't obscure the back-patio view.

For more kitchen design ideas, trends, and products, go to www.thisoldhouse.com or America Online Keyword "This Old House" and select "Kitchen" in the Home/now section.



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Ask THIS OLD HOUSE

Time to Ask This Old House on PBS, Thursdays in the second half of the New This Old House hour at 8 p.m. ET (visit www.thisoldhouse.com or check local listings).



TOM SILVA
GENERAL CONTRACTOR



ROGER COOK
LANDSCAPE CONTRACTOR



RICHARD TRETHEWEY
PLUMBING & HEATING EXPERT



BRIAN & BRIAN
HAIR CARE EXPERTS

NAIL-PULLING ADVICE

What is the best hammer for pulling nails? I always thought curved-claw shovels were best, but a guy at the local home center swore that straight-claw hammers were better. Can you clear this up for me?

Earl Gosswein, Long Key, Fla.

TOM SILVA REPLIES: The best hammer for pulling nails is the one that's in your hand. Other types can do the job.

I suppose if I had to pick a hammer just on its nail-pulling ability I'd go with a curved-claw hammer because I think it offers a little more leverage than a straight claw. But hammers are really meant for pounding nails in, not pulling them out. If you have a lot of nails to pull you either need to work on your nail-pulling technique or keep a cat's paw or similar tool on hand. A cat's paw is considered a wood-bored below the surface of the wood. For example—something most hammers can't manage.

NONSTICK POWERS

How can I prevent grass from sticking to my rotary mower? I now have a lawnmower engine on a pulled-out mower deck.

Brianne Stranahan, Jr., Guilford, Me.

ROGER COOK REPLIES: Sounds like you're mowing a new mower lawn. Once you've done that, get in the habit of cleaning out the grass and dirt after every mowing. (They hold moisture against the metal of the mower's deck.) Do your best to brush scrapes or nails off all of the accumulated debris from the underside of the deck. Then spray a lubricant on the underside of the deck to make it easier to clean. There are sprays specifically formulated for this purpose, but WD-40 also works as does kerosene spray. Apply the spray after each mowing to keep accumulations to a minimum.

SUNBLOCK FOR SKYLIGHTS

What can I do to prevent sunshine from streaming through my skylight and bleaching the color out of my natural oak cabinets?

Brian Winters, Great Falls, NY

TOM SILVA REPLIES: Short of making the skylight with one that has UV-blocking glass or installing blinds sandwiched between the panes, you'll have to apply



Hammering isn't a cat's paw for pulling out buried nails. Just drive it beneath the nailhead with a firming, in TSH general contractor Tom Silva demonstrates, then lever the nail out.

something to block the ultraviolet light that's causing the wood to fade.

The least expensive option would be to cover the inside of the skylight with a sheet of clear polycarbonate or an ultraviolet plastic found at home centers. There are two disadvantages: (1) This solution only works for fixed, nonopening skylights. (2) Polycarbonate doesn't turn yellow in the sun.

Another option is to install a shade made of a UV-blocking material that you open and close as needed (www.sunblockingsolutions.com). This type of shade operates with either a long detachable handle or a remote-control motor.

The third option is to apply a transparent window film that has a thin coating of metal to stop UVs. You can buy do-it-yourself films, but the most effective films have to be professionally installed (www.sunwindow.com, www.windowfilms.com). The cost for these is higher, but you'll have a warranty to fall back on if something goes wrong with their performance or appearance.

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ASK THE EXPERTS (Q&A) **Q** I have a problem with my 1994 Ford Taurus. The engine is a 2.5L V6. I have been having problems with the engine for about a year now. The engine is running rough, and I have noticed a lot of white smoke coming out of the tailpipe. I have also noticed that the engine is making a lot of noise, and it seems to be running hot. I have tried to change the oil, but the problem still persists. I have also noticed that the engine is making a lot of noise, and it seems to be running hot. I have tried to change the oil, but the problem still persists. I have also noticed that the engine is making a lot of noise, and it seems to be running hot. I have tried to change the oil, but the problem still persists.

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Ask THIS OLD HOUSE

WHAT'S PACKING?

As I was trying to fix an old leaky faucet, I removed the handle and the nut below it and found what looked like a washer inside the nut. But my dad said it was packing, and that I shouldn't put a washer in there. What is the difference between packing and a washer?

NELL ALLEN, Aurora, Wis.

RICHARD TRITHEWEY

REPLIES: You did a right on the money. Packing sometimes called stem packing or bannet packing, is a Teflon- or graphite impregnated cord that prevents leaks around valves stems. A washer is a rubbery disk that seals out water when compressed, in the case of faucets, the washer on a stem presses against the valve seat.

Here's a quick way to know which one to use. If water is leaking through the spout, you probably need a new washer. But if it's coming out around the handles, you need new packing. Just take out the old stuff, wrap fresh packing about three times around the stem counterclockwise, then replace the bannet nut.

BEAT THE WEEDS—ORGANICALLY

After reading your article on lawn care in the April 2004 T.O.H. issue, I tried out household vinegar as an organic weed control on some dandelions in my backyard. Within a couple of days, they looked pretty dead. Could I use this method to kill the whole lawn?

MARK LUTHEKE, CHICAGO

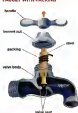
ROGER COOK REPLIES: Vinegar or acetic acid, is one of the newest things in weed control. When sprayed on, it has an almost immediate impact, as you discovered. The problem is that it doesn't kill the roots, so some weeds grow back over time.

To kill a lawn completely, you could spray the household vinegar on weeds and grass that are actively growing, and after a few days, follow up with glyphosate (Roundup) on anything still alive that would greatly reduce the amount of herbicide you need. Or you could apply another dose or two of vinegar before Rerolling and reseeding. You may get a few weeds, but don't use vinegar or herbicides on them yet. Wait until you've cut the new grass three or four times before launching another chemical attack.

NEW TRICK FOR OLD MITER SAW?

I know that stacked dado sets are often mounted on table saws, and I've seen them on radial-arm saws, but I've never seen this kind

FAUCET WITH PACKING



of blade on a sliding-compound miter saw. Seems to me this setup would make short work of cutting dados across narrow boards.

JACK PAXTON, Bronx, NY

NORM AERAM REPLIES:

That would be sweet, but I'm not aware of any miter saw with an arbor long enough to hold more than a single blade. (Some saw markets even seem about mounting a single blade that's too thick much less several.) But even if the arbor were big enough, I wouldn't recommend trying it. Miter saws are relatively light tools, and typically don't have enough power to safely do this kind of work anyway. If it's dados you want, I recommend using a router or a table saw.

ROTING JOISTS

I have a second-floor stick that overhangs over the driveway in a few places, the ends and tops of the joists are starting to rot. New joists would be very expensive to install because they connect



The size of gaps between floor boards may have led to rot, including the top edge of these joists.

less than 1/4 inch deep and occur only in small sections—cut or scrape out all the rotted wood and fill it with epoxy. If the rot goes deeper or is more widespread, the affected joists should be replaced. It might be a good idea to have a structural engineer design the connections and determine the size, species and grade of joists you'll need, and determine whether the joists inside the house are solid. And when you install the new joists, protect them by

with the house through a brick-veneer wall. Would "rotting" some new joists onto the existing ones take care of the problem?

BOB FOSTER, Two Rivers, Wis.

TOM SILVA REPLIES:

Slating new joists to the old ones would just encourage rot by creating a place for water to collect. You could trim the rot off the ends of the joists back to good wood, although that would make the deck narrower. But it's the rot along the top of the joists that's a trickier problem.

If the tops of the joists aren't too badly damaged—if the rot is



You can't stop time. But you sure can try.

Whatever it is you're looking for, do it eBay.



brushing all surfaces with a couple of coats of wood preservative. Let it dry and brush on some more. Then before you reassemble new decking, cut some strips of 15- or 30-lb. building felt 36 inches wide, and lay them on top of the joists before nailing down the decking on top.

One more thing: I notice from the photos that your decking boards are nailed up tight to each other. This may be the source of your problem. When water can't drain freely through the deck, the tops of the joists stay wet longer. So be sure to leave a 1/8-inch gap between the boards to give the wood a chance to dry out.

MULCH ALTERNATIVE

I've seen advertisements for a mulch made out of shredded tires that is supposed to look natural, never fade, and not harm the soil. I like the idea of putting old tires to use instead of filling up a landfill. What do you think?

Bever Geers, Orono, Me.

ROGER COOK REPLIES: There are many places to rubber mulch, not just a river waste product. It doesn't attract pests, and it's highly impact-absorbing, making it a good choice for playground areas and lawns. Not everyone agrees that it looks natural, though. And keeping it out of lawns is a headache.

Also, there's evidence that rubber can leach zinc into the soil. Too much zinc inhibits plant growth, so it may not be the best choice for gardens. It's also expensive, about six times the cost of some bark mulches. I still prefer to plant ground cover—rubber mulch doesn't flower.

PAINTING EXHAUST FAN?

The fan in my bathroom doesn't seem to operate properly. The motor noise (though it's loud), but after a shower, the walls, ceiling, and window are wet. Even the medicine cabinet is sweating. Also, the fan seems to blow out a lot of dust. What's wrong?

Susan Corbett, Eugene, Ore.

TOPH BLING REPLIES: And it could be several things. Perhaps the exhaust duct is clogged or disconnected, or the fan isn't the correct size for the bathroom. Just "Homeowner's Handbook," page 133. Or maybe the fan is too small for the size of the room, or it might be that there isn't enough air coming into the room to make up for all that the fan is trying to suck out of the room.

But the fact that the unit is blowing dust makes me wonder if it's even hooked up to an exhaust duct at all. Maybe you have one of those recirculating fans, which have no ducts to get rid of moisture; they only filter out odors. To find out, remove the fan grille. A recirculating fan contains filters, an exhaust fan does not. Cleaning or replacing the filters will stop the dust.

Now if you see an obvious connection to a tubular duct when the grille is off and the vent hood/fan is clean, you'll

have to find out how to change or clean the duct. Don't use anything flammable like a coat hanger. If it's just holes in the duct, instead, get one of those brushes designed for cleaning dryer ducts and work from the inside out. When the plug is gone, there should be enough airflow when the fan is on to hold a tissue lightly in place over the grille. And just to make sure the duct is attached at both ends, hold a plastic bag tightly over the outside vent hood while the fan is on; it should inflate in a matter of seconds.

SOURCES FOR IRON FENCING

I've fallen in love with wrought-iron fence around a local cemetery. All I know about it is that the cemetery was incorporated in 1888 and the fencing was made by a company in Ohio. Is there any way I might be able to obtain additional sections for my own property?

Joan's Nouns, Westport, NY

ROGER COOK REPLIES: That exact pattern might be harder to find than a needle in a haystack, but if you have the time, here's one way to go about it:

First, check if the antique yards in your area and on the Web to see if you can find matching fence sections. You could post photos on eBay or on a forum that covers old houses or antique ironwork.

Every bit of information you gather will help. A search of salvage yards and historical societies in Ohio, for example, may turn up the name of the foundry that originally made the fencing. Who knows, maybe they still around. It's also possible that cemetery associations might have some leads for you—if a product was used at one cemetery, it might also have been used at others. Clear, detailed photographs

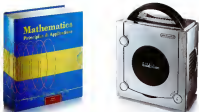
The antique wrought-iron fence with its cast-iron details could be replicated by a metal-working artisan if a search for original sections proves fruitless.

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PHOTOGRAPH BY JEFFREY M. HARRIS FOR THIS OLD HOUSE; FENCING PHOTO BY JEFFREY M. HARRIS FOR THIS OLD HOUSE; FENCING PHOTO BY JEFFREY M. HARRIS FOR THIS OLD HOUSE



Expand your mind. Well, enough of that.

Whatever it is you're looking for, do it eBay.



Ask THIS OLD HOUSE

will be a tremendous help in your search.

If you come up empty-handed trying to find antique sections, you could have new fencing made. It may not be as difficult or expensive as you think for a creative local welder or metal fabricator to recreate the freely simple design. And if local craftsmen won't interest the Internet, can lead you to other companies that might be up to the challenge.

PROTECTING LUMBER

I often see lumber stacked unprotected on job sites. Given the increasing concern about mold ailments that develop in buildings, do you think builders should be more careful?

William Tison Skates, Brownsie, Va.

TOPH SLAM-REPLIES: Absolutely. Lumber stacked outdoors without any protection from the weather offers a great habitat for mold. Plus, wet wood is more likely to rot, warp and shrink excessively as it dries.

The fix is simple. Get the stacks on a couple of skids to keep the underdrying then tie a tarp over the top to keep the wood from getting wet. Keep the stacks away from soft ground or muddy areas; if needed, plenty of air circulation underneath. Good planning helps, too. Deliveries should be scheduled to arrive when lumber is needed. It's harder to protect stacks that sit around for a long time.

Once a building is framed and roofed, the lumber usually dries

out pretty quickly. And when its moisture content falls below 20 percent, mold won't be able to grow on it.

TAMING A STRING-EATING PENCE

Whenever I trim the grass along my chain-link fence, the trimmer's string is always catching on the fence and breaking, and I end up using a lot of string. Is there a way to keep that from happening?

Tom Struchiner, Raritan, Pa.

ROGER COOK REPLIES: Yes, but it involves a bit of work up front. Take an edger and cut through the turf about 3 inches away from the fence, then dig out the grass between the cut and the fence. Now you can mow over the edge and avoid getting the string trimmer anywhere near the fence links. To handle any weeds that crop up in the dirt, give it a thick coat of mulch. ■

Send a question to Ask This Old House: go to www.thisoldhouse.com or write to:

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Include complete address and daytime phone number. Published questions and the editors for clarity, brevity and space. We reserve the right to edit or abridge all material. We are not responsible for return of unsolicited material.

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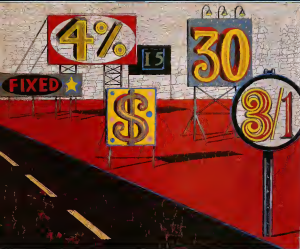
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Mortgage Madness

Lenders are advertising great deals, but you have to shop smart. Here's how to choose the right loan for you

BY JEFFREY BOYKIN

ILLUSTRATION BY ANTHONY FREIDA

Sometimes like you can't turn around these days without somebody trying to sell you a home mortgage. As rates hover at record lows, lenders and mortgage brokers are busy using TV, radio, billboards, and the Internet with ads offering every permutation of a low price, low-point loan. For financially cautious homeowners, all of that sowing has born an unexpected windfall.

Just ask Nicole and Jonathan Goldstein. In 2001, the Massachusetts couple was preparing for a lengthy "wild tour" with their two children. They decided to see if they could improve on their 6.75 percent, 30-year fixed loan, figuring that lower house payments would offset some of the cost of the trip. After investigating their options, they settled on an exotic alternative: a six-month adjustable-rate loan on which they pay only the interest due each month for the first 10 years. With a 4 percent initial interest rate, the new mortgage slashed the Goldsteins' payments by about half, to \$1,621 a month.

There must be a catch, you say. Well, yes. Because the rate is adjusted biannually, the Goldsteins have no way of knowing how much the loan payments will rise or fall every six months.



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And in 11 years, when it's time to start paying back the principal, their monthly not will suddenly jump by hundreds of dollars. But Nicole Goldstein is unfazed. "Interest rates may go up in the near future, and if that happens I can switch back into a fixed-rate mortgage before they become too high," she says. "As interest rates, and with the savings I'm getting over my original mortgage, I can live with a certain amount of risk."

For like-minded homeowners, there are plenty of deals to be had, even as interest rates begin to creep up. Because interest-only loans, borrowers can choose from a panoply of fixed and variable rates, so-called negative-amortization mortgages, in which the monthly payment is less than the interest and principal due for a predetermined period of time; and no-down-payment loans that cover 100 percent of the value of the house. There's even a zero portable mortgage from Florida Financial, a fixed-rate loan that homeowners can take with them to their new home.

"There's a loan for every type of individual and every type of circumstance," says Norm Bass, a mortgage broker who loans The First Estate and Finance Plan, a nationally syndicated radio show based in Southern California. "People should find a loan that suits their needs—it's available somewhere—because they're going to live with it for a while."

Here's a look at the most popular of the newfangled and traditional mortgages, and advice on how to choose the loan that's right for you.

FIXED-RATE MORTGAGES

Still the most common home loan, these typically carry a term of 15 or 30 years. A fixed-rate mortgage can cost 1 percentage point or more above a variable-rate loan, but it's a no-doubt option because the interest rate is locked



AS INTEREST RATES HAVE FALLEN, ADJUSTABLE-RATE LOANS HAVE BECOME DIRTY CHEAP, DIPPING BELOW 4% IN THE PAST TWO YEARS

years, versus \$58,000 for the longer-term version. For many people, the difference in monthly costs is negligible, while the interest savings is a compelling argument for going with the shorter term.

Homeowners who are closing an on-again mortgage will do well to take out a 15-year loan and pay off much of their housing costs in the years when they still have earning power or early in their retirement. The 30-year loan, by contrast, is better suited for younger people, ideally those who are active investors. With no cash to pay for their home, they could use the money they save each month to invest in stocks, bonds, or mutual funds that could potentially give them a greater annual return than the percentage difference between the two mortgages.

ADJUSTABLE-OR VARIABLE-RATE MORTGAGES (ARMs)

As interest rates have fallen, ARMs have become dirt cheap, dipping considerably below 4 percent in the last two years. The current rate on a so-called 3/1 variable-rate mortgage—which

is for the life of the mortgage—an advantage that is often overlooked by home buyers with short maturities. "Interest rates were 8 percent in 2000 and 10 percent in 1990," says Rob Kohnstiel, head of retail mortgage lending at Bank of America. "Today's low rates are a gift, in my mind. Who knows how much higher they'll be next year or the year after?"

Choosing between 15- or 30-year loans comes down to simple arithmetic. At an interest rate of 5 percent, a \$200,000, 15-year mortgage would cost \$1,102 a month; a 30-year version, which usually carries an interest rate about 1 percent higher, would cost \$163 less per month. Although the monthly savings is greater with the 15-year loan, less of a gain to interest about \$14,000 in the first five years, versus \$58,000 for the longer-term version. For many people, the difference in monthly costs is negligible, while the interest savings is a compelling argument for going with the shorter term.

Homeowners who are closing an on-again mortgage will do well to take out a 15-year loan and pay off much of their housing costs in the years when they still have earning power or early in their retirement. The 30-year loan, by contrast, is better suited for younger people, ideally those who are active investors. With no cash to pay for their home, they could use the money they save each month to invest in stocks, bonds, or mutual funds that could potentially give them a greater annual return than the percentage difference between the two mortgages.



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Mold & Mildew Prevention Tips

Mold & mildew can be problematic—especially in high-humidity areas of your home. Here's some advice from the mold & mildew experts at ZINSSER that can help minimize—and even prevent—mold & mildew problems.

- **Ventilate**—Keep the air moving in humid, mold & mildew-prone areas. Install exhaust fans and switch from solid to hollow doors.

- **Cleanse**—Wiping shower walls dry a few each use significantly reduces the moisture mold & mildew need to grow.

- **Disinfect**—Kilz coating mold & mildew with a solution of 3-cups bleach to one gallon of water. Clean surfaces thoroughly and rinse with clean water.

- **Prevent**—Once you've cleaned mold & mildew away, keep it away with PERMA-WHITE Mold & Mildew Proof Interior Paint from ZINSSER. Its bright white formula (available in a variety of decorative colors) is guaranteed to prevent the growth of mold and mildew on the paint film for 5 years.*



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means it has a fixed rate for three years and then is adjusted annually, based on a leading benchmark such as the prime rate—can be as much as 2 points below that of a 30-year fixed loan. Also, owners are not often, and even your adjustable-rate mortgage with desirable rates.

ARMs are a double-edged sword. In May 2004 they accounted for nearly 35 percent of mortgage applications, versus 13 percent in May 2003, according to the Mortgage Bankers Association. A big reason is that people move more frequently these days. With an adjustable rate mortgage, homeowners can lock into low monthly housing costs for, say, five or seven years. Then, if rates are higher at the time the loan is adjusted, they can avoid the increase by selling the house as planned, or at least pay more per month for only a short period of time until they do.

For those planning to stay in their homes longer than 30 years, variable-rate loans can be risky, especially when interest rates are on the rise. Although one- or three-, and five-year ARMs usually have a cap on how much the interest rate can increase, typically by about 2 percent annually and 3 or 6 percent over the life of the loan, longer-term ARMs may allow higher rate hikes on the first adjustment date to make up for the longer discounted terms. A 4 percent, 3/1 ARM, for example, could shoot up to 9 percent on the first adjustment date if the benchmark that it's linked to has ballooned. For a \$200,000 loan, that translates into an increase in interest of \$600 a month. And that's not all. "As interest rates rise, home prices will likely fall, perhaps wiping out equity for some borrowers," says Kuehler. "Those with



FOR THOSE PLANNING TO STAY IN THEIR HOMES LONGER THAN 10 YEARS, VARIABLE-RATE LOANS CAN BE RISKY, ESPECIALLY WHEN INTEREST RATES ARE ON THE RISE

just \$750 a month.

These savings can be costly before long. At some point, when the loan has no fixed rate adjustment, principal payments start coming due. That means that after five years, if the rate on the loan goes up to 7 percent, the monthly payment for interest and principal will jump to \$1,413 (because of the five-year bonus, principal payments are calculated on a 25 year rather than a 30-year term). An even riskier move is the interest-only mortgage in which the borrower pays a monthly amount that's even less than the interest due, so the amount of the mortgage actually goes up each month and it is adjusted.

ARMs may suddenly be full with many payments on a loan that is worth less than the mortgage.

Mortgage experts warn that homeowners who do not have enough money to cover the ARM at its highest possible monthly rate for at least a few years should avoid these mortgages. Or, put another way, if you've offered a fixed-rate loan on the house you want to purchase, don't take out an ARM to make up the shortfall, instead, buy a less expensive home.

INTEREST-ONLY MORTGAGES

The loan the Goldmans chase, that is a type of adjustable-rate mortgage in which only the interest is due during an initial period (say, five years). While these generally carry the same interest rate as conventional ARMs, downsample payments are much less. For example, if a 3/1 ARM costs 4.5 percent, or \$1,003 a month to borrow \$200,000, the interest-only version runs



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The best candidates
for these types of interest-
only loans are homeowners
who can afford—and are
disciplined enough—to
pay down at least some
of the principal during the
initial period of the loan
and invest the rest of the
money they're saving. That
way, investment gains
could potentially more
than cover the monthly
increase in the second
stage of the loan. Inter-
est-only mortgages are
also a good option for
self-employed people
with profitable busi-
nesses who want to
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rate so they can put
more of their live cash
into their companies,
where the returns may
outpace what they owe
on their property. "By
refinancing your prin-
cipal payments into
investments or busi-
nesses, you can directly put
your money beyond
your home, which is the
largest financial asset
that most people own," says
Heather Walsh, Merrill
Lynch vice president and
senior financial adviser. "Then,
if an investment does really
well or you get a \$10,000 bonus,
you can pay for your prin-
cipal with that."

Anticipating the sudden sharp
increase in payments, many
people refinance interest-
only loans before they're
adjusted, pocketing the
monthly savings and saving
into a low-risk loan below
current rates (as too much
DIY shows), that strategy
works best if rates rise
slowly and the value of the
property continues to
increase.

A historical note: In the 1920s,
interest-only mortgages were
commonplace. But when the
economy crashed, lenders
were unable to refinance
their loans because their
borrowers had



**MANY PEOPLE
REFINANCE
INTEREST-ONLY
LOANS BEFORE
THEY'RE
ADJUSTED,
POCKETING THE
SAVINGS AND
GETTING OUT
BEFORE RATES
RISE TOO MUCH**

recommended that
homeowners who are
paying the PMI generally
consider a property
refinanced after a few years.
Often the value of the
home has increased enough
to put the loan below the
80 percent threshold.

MASSACHUSETTS HOMEOWNER
Nicole Goldson, now back from her
posting overseas trip, is happy she
took advantage of the current
interest-only option. On the first
adjustment date, the interest rate
dropped by 74 of a percent.
But the known fact that home
prices could be falling. "The best
hedge against the future is to be
aware of what the situation is
out there," she says. "Know what
your loan is, what the rates are,
when you can refinance, and
how much your property is
worth. You have to pay attention
to this marketplace." ■

depreciated and they were
out of work. In the end of
foreclosure, lenders
stopped writing interest-
only loans—and anxiety

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Antique Cupboards

These practical storage and display pieces add character to any interior

Back in high school, when Lee and I made a corner cupboard in shop class to display our growing collection of English creamware and porcelain, we were following a long tradition. In the 18th and 19th centuries, almost every house in America had some sort of cupboard with shelves for storing crockery or pewter—usually cups on boards. These were practical pieces of furniture and, even so, used for storage and display pretty much the same way they were more than 200 years ago.

Cupboards made in the post-Revolutionary period, circa 1779-1850, took several forms, with stylistic differences determined by the region in which they were made.

SORTING OUT STYLES

Open cupboards typically have two or three dishes on top and a closed cabinet below. The top and bottom may be one piece or two. These are sometimes called dressers (continue)

Antiques experts Leslie Kono and Leigh Kono are hosts of *Find It First*, a new TV series on PBS showcasing the world of design, style, interiors and furnishings (for more, see excellent second *Leigh & Leslie in Philadelphia*) weekdays 8 p.m. getting all American in *Antiques in Manhattan*. Leslie is based at the American Furniture department at auction house Sotheby's in New York City.

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Nice Move.

MOHAWK
Mohawk makes the move

or pewter capboards (as, in Europe, White House). The best New England and Pennsylvania versions have scalloped sides flanking the upper shelves and plain rails between the shelves so you could hang the dishes forward to keep them from collecting dust. Pennsylvania examples sometimes have spoon slots in the shelves.

Closed capboards, with doors on both the upper and lower sections, became popular in the late 1790s. (These are sometimes called linen presses, although most have pieces of this period combine a paneled door top with two or three drawers beneath.) Capboards with paneled doors were popular in the South, while in the mid-Atlantic states and New England, more-expensive glazed doors became common.

Some capboards are referred to as step-back capboards because the top is less deep than the bottom, providing a flat work surface. Corner capboards have triangular backs so they can fit unobtrusively in a corner. Some of these are fascinating with less—especially

in the South—but none were built in.

Whatever the style of capboard they produced, craftsmen usually used indigenous woods—oak, walnut, poplar, and maple are common—and imported less-expensive pine and poplar to the backs and interiors, which were often painted. Doors made entirely of pine were usually paneled and not a door itself.

WHAT TO LOOK FOR

A piece's value depends on form, condition, age, and detail. A few years back, a previously rare walnut capboard in the Queen Anne style with a scalloped green along the base was sold for more than \$100,000 at the Philadelphia Antiques Show. But most antique capboards sell for between \$1,000 and \$30,000. Scalloped scrolls on the upper section are a single affix, and step-backs are generally most desirable because they tend to be less bulky and more practical. Backs are less desirable.

When looking at samples, make sure a step-back capboard isn't "meager" of wood-different

An open capboard used to display a collection of china (see drive-the-ship sets in the open plan living space).



Pennsylvania painted poplar corner capboard, circa 1850, sold at auction for \$23,000 in 2007.

On an open capboard, look for evidence that the piece originally had doors, usually wood fill on the large sections on the door frame.

If the doors are still on, make sure they're original. The paint or finish should match the rest of the capboard. If the sections on glazed doors don't line up with the shelves, it could mean the doors aren't original or that wood panels were replaced with glass.

When buying a capboard, first consider the space it will occupy and what it will hold. Free-standing capboards tend to dominate a room. An open capboard at a closed one with glazed doors isn't less massive and is a good choice if your goal is to display a collection. Corner capboards are a charming way to make efficient use of a small space, although you will probably need a carpenter to install a built-in.

No matter the style, a sturdy capboard always a good investment. Even under a round breakfast table and hold so many things that you may wonder how you ever lived without it.

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Q & A



MECHANICAL SCALE

This antique scale was a gift from my former employer, he owned a series of agnostic grocer stores. I would love to have information regarding its background and value.

Berry Kramer, Ottawa Hills, Ohio

JOHN AND BILL, BEARING REPEAL: This 1909 mechanical scale was originally used in grocery stores to weigh meat or produce by the pound or ounce to compile a price. Scales of this type were in widespread use from about 1900 to 1920. The patent for this particular model was issued in 1903 to Joseph E. Cochran of Elkhart, Indiana, who made the Argyle brand of scales. It has a 30-pound capacity and appears to be perfectly restored. The "Honest Weight" sign is very desirable to collectors because it is locally illuminated. Also desirable is its open face showing the scales' inner workings. This model is valued in the \$3,000 to \$4,000 range. To learn more about vintage scales visit the International Society of Antique Scale Collectors' website at www.isasc.org.

Antique-scale experts and collectors, John and Bill Bering of Spectrum, Illinois, are the authors of *Scales: A Collector's Guide* (Stackpole Publishing, 2004).

SHOOTING BOOKS BY THE GUN

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ALTERED QUEEN ANNE

This maple chest has been passed down in my family since the 1700s. It now stands in my restored 1887 home. The past features dovetailed joints and numerous carvings. The hardware is brass, and all pulls but one are original. What can you tell me about its value?

JENNIFER BARNES BOON, HILLSBORO, N.J.

LEIGH HIND REVEALS: This is a lesson in what not to do to a beautiful Queen Anne. But top highboy. It gives me to think of the legs being chopped off this chest, but that is indeed what has happened. Its value, unfortunately, has been crippled as well—what might have been worth upward of \$50,000 is now worth less than \$5,000. Judging by the shape of the feet (the decorative and structural board between the legs), this circa 1740-1750 piece appears to have been made in Connecticut, near the Storington area. It would originally have stood about 32 to 34 inches higher, on ornate legs that curved outward at the knee and then back in at the ankle, ending in claw-and-ball feet. In this case, the knees now function as feet. The stars carved into the skirt and in the small drawer at the top, the medallion set in a small drawer at the bottom, and the carved shell detail on the knees are all unusual and would have added to the piece's value had it not been altered. Over the years, people often make adjustments for practicality's sake—perhaps the chest was wobbling and past owners believed it to be unsafe or maybe it was being moved into a room with low doorways—but as an admirer of Queen Anne furniture, I would love to have seen it in its original form.



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Q&A

HORTICULTURAL PLAQUE

I acquired a bronze plaque about 25 years ago and am curious as to its value. It measures 6 1/2 inches wide by 11 inches high. Inscribed at the bottom is "Open Chrysanthemum—Horticultural Plaque." Inscribed at the bottom is "Presented by Toogood and Sons, Ltd.,

Sherborne to H.M. The King." Inscribed along the lower right border is "Hanso Thompson, 1923." Any information would be greatly appreciated.

JACK E. LOYTMAN, SANTA ROSA, CALIF.

NICHOLAS H. DWYER REPLIES: This plaque bearing the figure of a woman holding a flowering shrub appears to be a British-made horticultural prize that was never awarded; the recipient's name would have been engraved in the blank area of the border. Its sculptor for Hanso Thompson is perhaps most famous for two other nationalistic works: a marble statue called "The Sower" in London's King's Gardens and "The Flower" in the new bronze, which is part of

the Britan's pavilion collection. Prizes such as yours are highly sought after by garden antique enthusiasts, and I would place its value between \$500 and \$1,000. The value is based more on the plaque's merits as garden antique than its aspect of art. It was most likely one of a series of castings rather than a unique piece, and it may have been made some years after it was designed in 1923. Also, it is not necessarily a prize associated with His Majesty the King of England; the wording merely indicates that Toogood was once a purveyor of goods to the King or other members of the royal family.

Nicholas H. Dwyer is a British decorative arts expert and antique dealer based in New York City.

ARTS AND CRAFTS DRESSER

Can you tell me something about this chest of drawers? I think it is from the Arts and Crafts period.

CHRISTINA LIMAS, LAWRENCE, LA



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CHESLEWORTH REPLIES: The piece is classic English Arts and Crafts. In England, from the 1870s to the early 1900s, there was a call for hand-crafted furniture, typically in oak or mahogany with added decorative elements. Craftsmen worked details in brass, ivory, pewter and other materials. The movement developed as a reaction to cheaply machine-made furniture of the early Victorian period. In response, manufacturers picked up the style of handmade Arts and Crafts pieces. Your dresser was factory-produced circa 1885-1890. The wood appears to be mahogany and the inlay seems to be a stock factory pattern made of mother-of-pearl. The blue stones adorning the brass pulls are actually a turquoise-colored synthetic material. I would estimate this piece might bring \$500-\$750 at auction today and up to \$1,000-\$1,500 in a shop.

Chris Kennedy is the owner of a motley, a shop in Northampton, Massachusetts, specializing in 20th-century modern furniture.

PAINTED WAGON

I'd love to know more about this small wagon. It was made around 1900 for a member of my husband's family who lived in Hoad.



Karen Grogan. The seat is removable and has been originally, the wagon itself has its original paint. There are no markings on it.

STYXIA GROSSE, LISA, WASH.

ELL SPENCER REPLIES: This is a very nice example of a children's pull wagon, probably made around 1900, with wooden spokes on the wheels and what appears to be original paint on the body. The seat may have been added later and certainly has never been painted. The fact that the rear wheels are bigger than the front adds character and increases its value. The dovetail joints at the corners appear to have been machine-cut. The Penn Manufacturing Company of South Paris, Maine, made "Napier" wagons very similar to this one in the late 1800s but they were always marked underneath. If yours doesn't bear the mark, perhaps it was made by an Oregon manufacturing company. It's a charming piece that I'm sure holds great sentimental value for your family. At a country auction, it would easily sell for \$350-\$450, and up to double that amount in an antique shop.

Auctioneer and appraiser Bill Taylor runs a country auction twice a month in North Kingston, Rhode Island.



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FROM THE GROUND UP



Not Too Hot, Not Too Cold

The best technologies for indoor comfort and energy efficiency

BY MAX ALTMAN

From the Ground Up: 75 Years of Building Experience
In this special year-long series celebrating the 75th anniversary of The Old House, we highlight each of the different systems a house has from the foundation to the roof. You'll learn best building practices from an experienced TOH crew member and discover some new materials and technologies we've put our eyes on. By year's end, you'll know how to build it. The Old House way.

Next Month: High-Rise Wiring for Safety and Communication
Brighten the school



Digital windows let TOH's plumbing and heating expert Richard Tackewey show why new homes are working at maximum efficiency.

Not so long ago, staying warm meant shoring coal or chopping wood. Those two fuels—which heated just two, as the saying went—accounted for three-quarters of all residential heating in 1940. Today, with gas and oil-fired central heat, air conditioning, and a more numerous than brick a finger to adjust the thermostat.

But getting to that point is probably the most technically challenging part of any residential construction project. For starters, you must maximize efficiency, a task made all the more acute by rising fuel prices. Heating, ventilation, and air-conditioning (HVAC) consumes almost half of a home's energy bill, so every percentage of improvement makes a significant difference. You also must pay HVAC pros to consider all the factors that influence comfort—including humidity, air velocity, air quality, and indoor air quality—and to choose equipment based on its size, maintenance and expected longevity. "Proper sizing and installation are critical," says The Old House plumbing and heating expert Richard Tackewey. He agrees: His squeaky installers who know how to perform heat loss calculations (see "Biggest Misconception," p. 67), and smart accessories that have earned the Energy Star high-efficiency rating.

Turn the page for a look at the key components in the state-of-the-art heating and cooling system. But Richard recommends if you're building from scratch.

(Continued)



BY THE NUMBERS

\$6000
Average annual cost to heat and cool the typical American home

\$360
Annual cost to heat and cool the same house with Energy Star equipment

60%
New homes with central air: 1979

88%
New homes with central air: 2003

TYPE OF HEATING FUEL USED IN U.S. HOMES IN 2000:

Natural gas: 38%
Electric: 30%
Oil (including kerosene): 9%
Propane: 7%
Wood: 2%
No heat: 6%

HOW HOMES ARE HEATED IN U.S.:

Furnace: 83%
Boiler: 6%
Other (electric heat pump, woodstove): 28%

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Worth a Look

FRESH AIR WITHOUT ENERGY LOSS

When a house is built so tightly that it can't breathe, it can suffer from high indoor moisture levels (which encourage mold growth), elevated levels of carbon dioxide and other toxins (from off-gassing finishes, fabrics and guests) and painful heat levels from cooking and smoking.

A hybrid air exchanger solves these problems by sucking in fresh outside air as it expels stale indoor air in winter, it uses

the expelled air to warm and humidify the incoming cold air. In summer, it cools and dehumidifies sticky outdoor air. And, as it operates, it filters out airborne contaminants and odors.

"Sooner or later, every house will need one of these units," says Richard. He recommends connecting it to a separate duct system serving bathroom, bedroom and the kitchen.



2 OUTDOOR RESET CONTROL

These smart devices save energy by regulating the boiler or furnace

temperature in response to changes in outdoor temperature. On a 30-degree day for example, the water in a boiler might need to be 100 degrees to heat the house. But on a 35-degree day, 35-degree water might be enough. This outdoor reset control makes the adjustments, saving a heating

unit from excessive on-and-off cycles and smoothing out the uncomfortable fluctuations in interior temperature that result when a thermostat is

in total control. Just make sure that your heating unit works with the kind of device. "A reset control can only improve system efficiency by at least 10 to 15 percent," Richard says.



CONDENSING GAS BOILER

One by-product of burning natural gas is hot-water vapor which until recently went up the stack with the rest of the exhaust gases. The last of this heat prevented boilers from becoming more than 85 percent efficient. Condensing boilers employ a heat exchanger that wrings the heat out of the vapor before it can escape. "It is a quantum leap," says Richard. "Some of these units are achieving efficiencies of 96 percent."



RICHARD'S FAVORITE WAY TO HEAT

Radiant floors have changed the way Americans think about comfort. The principle is essentially the same as an old-fashioned radiator, except that instead of heating a large bulk of metal, the mass being heated is the floor itself, via hot-water pipes or electric wires under the surface. Not only is the heat more gentle and efficient, says Richard, it's more comfortable because humans prefer their feet to be warmer than their heads. "Forced-air heat does the opposite: it gives you cold feet and a hot head."

In-floor heating goes back at least to ancient Roman baths, where fires heated the air under stone floors. Modern in-floor heating uses loops of PEX pipe, either buried in poured concrete or fitted into grooved panels on top of a wood subfloor, as shown above. The same principle can be used outdoors to melt snow on a driveway or walkway.

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TALKING SHOP

CHOOSING AND USING TOOLS

CARTS AND WHEELBARROWS

BY JOHN KELSEY PHOTOGRAPHS BY LEEK KANE

More gardens, lawns and carts moved the stuff that built civilization, and aside from the addition of a little power motorized tools, it's not much has changed. From hand to hand, it's still the same old story: everything travels more quickly when you stick a wheel underneath it.

Carts and wheelbarrows help you move heavy loads by distributing the weight over the wheels. A wheelbarrow has a sloped tray and one or two wheels in the front. You have to push it, but it maneuvers easily and can go anywhere (provided you don't jam it into a hole). A cart, on the other hand, has straight sides and two or more large wheels. It works best when pushed—usually over a smooth surface, though—on big wheels can bridge holes. Carts are also more stable and carry more volume than wheelbarrows.

When choosing either follow the recommendation of this old Master landscape contractor Roger Cook to look for frame-lined or solid tires, because pneumatic tires can go flat. And when it's all said and done, do what Roger does: Throw a piece of plywood on top and set out your potted plants.



A powered cart like this electric pusher can make moving heavy loads a lot easier. It's also a lot more fun.

CARTS



▶ LARGE CART ▶

BEST FOR: Moving heavy or bulky loads—much heavier construction debris, household appliances—across smooth terrain

LOOK FOR: Two wheels, sturdy wood or metal box, and a folding body (left) for easy storage.

SHOW: Tike Foldit aluminum cart, \$250



▶ POWERED CART ▶

BEST FOR: Moving heavy loads up and down hilly terrain

LOOK FOR: Large cart with gasoline engine or smaller cart with electric motor and rechargeable batteries

SHOW: LUV electric cart from CartCraft Co., \$380



▶ SMALL CART ▶

BEST FOR: Tumbling trash and soft-edged plants into the garden

LOOK FOR: Four wheels for stability and a handle/bow that flips over so you can sit on it.

SHOW: Ames Lawn Buddy gardening cart, \$35



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Settle In

Sometimes you need a place to kick back and put your feet up to make that newly remodeled room feel like home. Here's a look at some new choices in chairs and sofas

BY KAREN WALDEN



CHAISE LONGUE

An alternative to the traditional club chair and ottoman combo, this generous yet not oversized chaise lets you stretch out in comfort. Specialties available in black, white, red or cherry finish (\$2,200)

FEATURES: Constructed from solid birch and available in hundreds of fabrics; choices include performance fabrics that resist fading and soiling. **SIZES:** 34 inches wide by 64 inches deep by 39 inches high.

FOR MORE INFO: 800-450-1134, www.chairheritage.com



LEATHER CHAIR

Leather chairs don't have to be predictable if you think beyond traditional club styling in their typical shades of brown, black, and tan. The one offers plenty of versatility with scaled-back elevations and unobtrusive lines that allow you to mix it with other furnish-ups (\$3,750).

FEATURES: Available in more than 100 leathers, including Keweenaw Sunset (shown). **SIZE:** 29 inches wide by 30 inches deep by 33 inches high.

FOR MORE INFO: 800-852-7592; www.bendindustries.com

WING CHAIR

Classic and well-tailored, the classic wing chair has a lot in common with the man for whom it was named: actor Cary Grant. The tapered base and nickel casters modernize the look (\$3,637).

FEATURES: Comes in hundreds of fabrics; our plush shown in chocolate is particularly tough-wearing. **SIZE:** 33 inches wide by 31 inches deep by 45 inches high.

FOR MORE INFO: 800-828-0002, ext. 13; www.benthamfurniture.com



RECLINER

Recliners don't have to look like your dad's old over-stuffed one with the handle on the side. The contemporary take on an old favorite is covered in one of the most lustrous (Overlapping Grains) leathers at the moment, but it also comes in 300 other fabrics to suit more traditional settings (\$700).

FEATURES: No-recliner levers give it away—simply push back and you're reclining.

SIZE: 36 inches wide by 40 inches deep by 42 inches high.

FOR MORE INFO: www.burley.com



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LEATHER SETTEE

This scaled-down leather settee could work as a foyer, den, or guest room. Tufted English touches include tufted back, rolled arms, and nailhead trim (\$3,200).

FEATURES: Padded cushions on columnar legs make moving it easy; leather upholstery means durability.

SIZE: 45 inches long by 35 inches deep by 41 inches high.

FOR MORE INFO: 866-493-3434 www.seethedesign.com

TAILORED SOFA

Details like back pillows of uniform size, a single seat cushion, and exposed wood legs create clean lines from top to bottom on this sofa. The look pairs well with both traditional and contemporary furnishings (\$3,400).

FEATURES: Upholstered or slipcovered in more than 300 fabrics; Chelly blue shows cushions are 100 percent goose down and feather.

SIZE: 98 inches long by 42 inches deep by 36 inches high; chair and ottoman also available.

FOR MORE INFO: 800-763-5401 www.mitchellgold.com



SLIPCOVERED SOFA

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FEATURES: Templates for slipcover are kept on file, so you can always get one to fit your sofa.

SIZE: 86 inches long by 38 inches deep by 36 inches high.

FOR MORE INFO: 800-534-7033 www.coveandlure.com



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A hammer claw makes fast work of a rotted piece of pine window trim. All the rotting wood needs to be removed before the spot can be repaired.

Got Rot?

Three ways to repair the damage

BY JACOB ENGBEL
PHOTOGRAPHS BY BRIAN WILDER

Rot happens, even to the best of houses. All it takes is a wood, sealer, and weather, and before you know it solid lumber turns to mush. Exterior trim is the most vulnerable to attack by rot fungi, and it doesn't have to be very old; the trim shown on these pages was installed only 10 years ago.

Fortunately, rotting trim is generally easy to repair. Rot-infested framing or moldings pose a much bigger problem. But before you can fix it, you have to find it. With screwdrivers or a nail to hand, scratch the exterior as carefully horizontal and don't stop until you reach softwood, chip, or water rot. Look for paint that is cracked, peeling, or blistering, or wood that's darker than the surrounding area, or gaps with algae. Probe anywhere there's rot and gaps, which will pop up water like a corky walk in a grade-school science experiment. Pay particular attention to joints, which dry slowly, and to all wood that's close to dirt, concrete, or masonry. If you're able to push the rotting trim easily into a suspect board, then it's time to cut out the rot.

On the following pages, we demonstrate three long-lasting, no-repair methods: filling in the rot with epoxy, totally replacing the bad piece, or just replacing the decay with a wood patch, or "dutchman." And we explain how to know when to use each one. All you need are reasonable carpentry skills and some basic tools. The results may surprise you. When done correctly, the fix is so seamless that it is difficult to distinguish from the original.

(continued)

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Epoxy Repair

When rot affects a relatively confined area, filling the damage with two-part epoxy resin is a smart option that yields a seamless repair and doesn't require a lot of experience. Here, John Stahl of Advanced Repair Technology, who restored the old windows for *This Old House* TV projects in Milton and Salem, Mass., takes us through a typical repair of a rotted window mullion.



1. After cleaning out the loose stuff with a hammer, Stahl removes all the rot-affected wood with a die grinder and carbide-tooth router bit. For an epoxy repair to be effective, the freshly exposed wood has to be dry and deep-less than 10 percent moisture content. Stahl checks it with a moisture meter before proceeding.



2. The undersized area at the bottom right of the mullion is an old epoxy repair around which the wood continued to rot. To ensure that won't happen again, Stahl injects a bonafide wood preservative into holes drilled halfway into the wood. Sealed over with epoxy, the preservative penetrates the wood, minimizing the chance of future decay.



3. A two-part epoxy primer bonded on the exposed wood ensures that the final repair will bond to the surface. After waiting about 15 minutes for the film to cure, Stahl sands off the excess with a coarse towel. The surface is now ready for a coat of the two-part epoxy film.



4. Stahl mixes the two components of the epoxy film—resin and hardener—onto a piece of board then blends them thoroughly with a plastic putty knife. Epoxy doesn't stick to hard plastic surfaces, so the board and putty knife can be cleaned and reused.



5. Using the same plastic putty knife, Stahl scallops the viscous epoxy into shape. The mix remains workable for about 30 to 45 minutes longer in cool weather; shorter when it's hot.



6. Epoxy breaks down in sunlight, so it needs to be painted. The next day after the repair hardens, it's sanded smooth, first with 60-grit paper then 100-grit, then 220-grit. An acrylic primer is next, followed by two coats of 100 percent acrylic paint.

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Because of their unmatched adhesion strength and ability to resist water and chemicals, epoxies are well suited for outdoor wood repairs. Just keep them out of the sun! All epoxies have two parts—a resin and a hardener, which must be mixed together—but they come in a multitude of formulations and consistencies. Some are simple, some more gels, still others resemble lightweight grouts and have to be kneaded together like dough. For small repairs, nothing beats ready-made kits with all the necessary materials, including plastic gloves, packed in a single box (left). For larger projects, double-barrel caulk guns with extending nozzles, or manual pumps like fast-food ketchup dispensers, make them easier.

No matter which product you use, a few things are essential: accurate measuring, thorough mixing, dry wood, and the application of a thin epoxy primer or consolidant before putting on the fiber coat. Others mistakes makers disagree is an how much wood to remove of the surface. Some favor holding off the loose, punky wood with a wood-handling compound. Others advocate grinding down to bright, solid wood before priming. This Old House repair carpenter Matt Adams sides with the latter group. "I would not leave rotted wood in place," he says. "It's like filling a tooth cavity without removing the decay."

EPOXY SAFETY

Epoxy doesn't have much of an odor, which makes it seem benign. But don't drop your guard. If you get it on your skin or work with it in poorly ventilated areas, you can develop acute dermatitis, an itchy, flaky skin rash or temporary irritation of the upper respiratory tract.

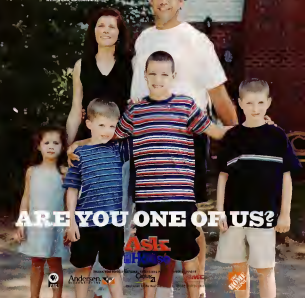
To be safe when mixing and spreading epoxy, wear gloves—use long-handled tools, and work outdoors if possible. Indoors, ventilate well with fresh air or wear a respirator. If you do get epoxy on your skin, wash it immediately with detergent, then soap and water. Once epoxy cures, however, it's perfectly safe to touch. (Continued)

PHOTO BY GUY A. LAWRENCE

We needed help.

We wanted to replace our old wall-to-wall carpet with a new laminated wood floor. We e-mailed Ask This Old House, and general contractor Tom Silva showed us the way.

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Total Replacement

When you find extensive rot in a piece of trim—often the case when wood is installed poorly, needs flashing, or isn't rot-resistant—then total replacement is usually the easiest and least expensive way to go. Carpenter Mike Vietn of Vietn Construction demonstrates the basics of replacing a pine plinth block placed too close to a stone step. In these situations, Vietn uses cellular PVC, a solid, 3/4-inch-thick material that won't rot.



1. After it's cut through the old cork around the plinth (to avoid damaging the adjacent wall), Vietn gives off the old molding and leaves the plinth free. Its water-blocked sawdust shows how extensively moisture generated the assembly.



2. Vietn protects the framing with overlapping strips of sheet-lead flashing (Dacopar or waterproof membrane also works). Then he protects all the exposed edges of the old trim with a coat of oil-based primer.



3. When the primer dries, Vietn squirts a bead of polyurethane construction adhesive over the edges of the old wood trim. He immediately backs the new plinth's notched slot pieces into the gaps, which is both strong and waterproof.



4. A PVC-adhesive-based cement bonds the mismatch pieces of the new plinth to each other and makes the joints waterproof. Vietn also fastens the plinth together with stainless steel pine-head screws. Gaps of acrylic glazing putty hold the screen heads.



5. A light sanding with 220-grit paper readies the plinth for a coat of acrylic-based primer and two coats of acrylic paint. The paint blends the repair with the rest of the trim, but it isn't needed to protect the PVC from the sun.

PROTECTING WOOD FROM ROT

Follow these basic rules to keep rot fungi at bay on wood that's outdoors:

- Stop any leaks, and shield wood away from moisture. Otherwise, rotters eat a waste of time.
- Use environmental emulsions, such as solid PVC film or the herbicidal of western red cedar.
- When restoring wood completely, cover all sides with an oil-based primer before installation.
- Don't let wood touch the ground or any masonry.
- Caulk behind all the joints before joining pieces together.
- Glue joints together with waterproof adhesives like polyurethane or epoxy.
- Use fasteners made of stainless steel, which doesn't corrode.
- In spots that are hard to maintain or replace, or exposed to severe weather constantly, treat wood with borates.

(Continued)

IMPROVE SAFETY AND NIGHT INFORMATION

LEVITRA is a prescription medicine that is used to treat erectile dysfunction (ED). Men taking alpha-blockers, often used to treat high blood pressure or enlarged prostate, should not take LEVITRA. Men who take alpha-blockers should be monitored for high blood pressure or prostate problems, and should not take LEVITRA. Such combinations could cause blood pressure to drop to an unsafe level. The alcohol and the LEVITRA if you drink alcohol. That could easily cause a health risk for you. Men who experience dizziness or lightheadedness from alcohol should avoid alcohol. Men who take LEVITRA should not drink alcohol. LEVITRA does not prevent rapid sexual intercourse. The starting dose of LEVITRA is 10 mg taken as soon as you get up. If you find that it works for you, your doctor will decide the dose that is right for you. In patients taking certain medications such as rifampin, rifabutin, ketoconazole, itraconazole, and erythromycin, lower doses of LEVITRA are recommended, and these lower doses of LEVITRA may need to be adjusted. In other men, the most commonly reported side effects are headache, flushing, red eyes or watery eyes. LEVITRA is available in 10-mg, 20-mg, 40-mg, 60-mg, and 80-mg tablets.

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CLOSETS PLUS

Closets aren't just big suitcases—you can use the space for a multitude of purposes. When designing a closet, think about things that have nothing to do with storage!

DO YOU WANT A PLACE TO SIT? A chair is convenient for putting on socks and shoes. Under-window seating works especially well because you can't use that space for hanging storage anyway.

DO YOU WANT TO BE ABLE TO LOOK AT YOURSELF IN THE MIRROR? Try to get at least three feet away from the mirror and make sure it's in a place that can't be blocked, such as on the back of a door.

DO YOU PLAN TO BRON WHERE YOUR CLOTHES ARE? A big departmenting board saves space.

DO YOU WANT TO WATCH TV WHILE YOU GET DRESSED? If you do, place your slacks around it, because unless it's at eye level the TV becomes a radio.

DO YOU WANT TO ADHERE THE VIEW?
Remember that if you can see it, others
can see it, so keep the windows at 15
feet or higher or higher.

Clothes Encounters

Principles of smart closet design

STORY AND ILLUSTRATIONS BY DUD DEDMON

Just like all household appliances, closets these days come loaded with bells and whistles. Whether it's simply a place to store clothes in, or is increasingly the case, your closet needs to do double duty as a dressing room or sitting room, it must be adaptable, durable, and convenient to use. Here are a handful of ideas that can improve the function of any closet, regardless of its use or what items you store in it.

1. Use the vertical dimension in both directions. Take advantage of all available space, up to the ceiling and down to the floor. Run as high shelves, rail and boxes that go to the floor (available from many catalogers), even a third close pile of your ceiling is over 5 feet high, so

Don Gels speaks from a traditional uniting for 25 years and practices in Madison, Connecticut. He's a self-styled "The House Rocker" and a "rock star" in the house.



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graph LR
    MOLD --- HALF_TRUCK[HALF TRUCK]
    MOLD --- IGNORED
    MOLD --- REDefined
    MOLD --- AMPLIFIED
    MOLD --- BROKEN
    UTILITY --- HALF_TRUCK
    UTILITY --- IGNORED
    UTILITY --- REDefined
    UTILITY --- AMPLIFIED
    UTILITY --- BROKEN
    VERSATILITY --- HALF_TRUCK
    VERSATILITY --- IGNORED
    VERSATILITY --- REDefined
    VERSATILITY --- AMPLIFIED
    VERSATILITY --- BROKEN
    RULES --- HALF_TRUCK
    RULES --- IGNORED
    RULES --- REDefined
    RULES --- AMPLIFIED
    RULES --- BROKEN
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    HALF_CAR --- REDefined
    HALF_CAR --- AMPLIFIED
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Il nuovo pavimento in legno
per interni è stato studiato
per durare nel tempo.

Il nuovo pavimento in legno
per interni è stato studiato
per durare nel tempo.

PERGO

DOORS, DOORS, DOORS

There are essentially two types of closets: those you can walk into and those you can't. Reach-in closets pose the biggest challenges, not the least of which are the doors used to access them.

SLIDING

If there's no room in a swinging door is the best option because it gives you full access to the inside of the closet. This downside is that you can't swing a door into a single-depth closet, and a standard outswinging door means nothing can be in its path.



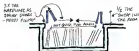
SLIDING

Your most basic bet if space is too tight for a swinging door. But these bypassing slides are prone to sticking, binding, and even peeling off their tracks—and you can only get in one half of the interior at any given moment. Sliding the door out the generic hardware for "140" or heavy-duty hardware limits the problems and is well worth the cost in the long run.



BI-FOLD

Because they afford access to the full width of the closet while gobbling up only half as much floor space as swing doors, bi-folds are tempting. Until you realize they've got twice the number of moving parts as sliding doors and twice the opportunity for hooking up or falling off their tracks.



ideal for storing items you don't use all the time. Less accessible places work well for all-season storage if you have enough space that you don't need to rotate clothes, use the space to get oddball shoes, hats, bags, or seasonal items out of damp-basement-and-flea-market storage.

2. Think about lighting. For a closet to work, you have to be able to see what's inside it. Natural light from skylights or windows is plus, but beware the fading that sunlight can produce (windows also use storage space). When sunlight isn't available, you need good artificial light. The important thing to keep in mind about artificial light is that a line will be between you and the contents of the closet, don't behind you, you'll cast a shadow on what you're trying to see. One consideration here that you might not think of is heat. Incandescent bulbs can be a fire hazard in the tight, enclosed confines of a small closet. Plus, incandescent lighting is often the only code-compliant solution.

3. Know your wardrobe-and habits. Closets, more than any other space in the house, work best if you know in advance precisely how you're going to use them. For example, if you launch socks, they'll need more space than if you roll them. Ditto for shirts. Do you stack them neatly or hang them up? Think about what you wear and how you like to get dressed, and design the space to serve your most used items up around eye level, less used below, and least used high above. Most doors have too much hanging storage and far too little shelf or drawer storage.

4. Design in visibility. Being able to clearly see all your socks, ties, and underwear (even only the top layer) gives you real choices when you get dressed. Take advantage of all the many accessories available, such as wire bins, acrylic- or glass-fronted drawers, drawers with dividers, and belts and tie racks, to keep items organized. Shelves (and drawers that are part of deep fabricators or boxes) should be adjustable and movable from place to place within the closet for maximum versatility.

5. Don't ignore the floor. You may be the only one who sees it, but the floor of a closet matters, because you'll be standing on it as you hunt for socks every day. For maximum underfoot comfort, carpet is your best bet. Two cautions on carpets can be difficult to vacillate. For maximum durability, go with wool or tough.

6. Watch out for aging, rotting, and other odd-ball benefits. Closets need some airflow and dehumidification to stay from becoming ground for mildew, mold, even insects. A bathroom-size fan, timed to go on and off at regular intervals, will help pull air through the closet even when the door is shut. A small dehumidifier is another way to keep things from getting musty, especially if the door is in a damp basement.

7. Beware of odors. Cedar closets do keep the moths away, but the cedar scent can permeate adjacent spaces. If you don't want your bedroom to smell like a giraffe cage, locate the cedar door in an entry or bathroom such as there are additional doors (other than the door of the closet) between you and it.

OUTSWINGING CLOSETS

Your options for outswing closets are more readily as wide as your choices for transforming your house. Years ago, all you got were poles, hooks, and shelves. Today, custom millwork is our mainstay, with kinds of wood finish as sophisticated as any high-end kitchen or bath.

New closets. If you don't say anything to a contractor, you'll get a basic "pole and shelf" storage single pole with a fixed shelf above it.



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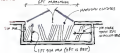
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BY DESIGN CLOSETS

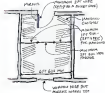
LAYOUTS AND MINIMUM DIMENSIONS

Whether it's walk-in or reach-in, a closet isn't much good if you can't get to what's inside it. A walk-in should be at least 6½ feet wide for easy access, front-facing closets should have no more than 2 feet accessible at either end.

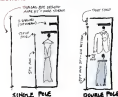
FRONT-FACING



WALK-IN



CROSS SECTIONS



Then it's up to you to customize the interior your self. Typically built and pre-assembled, there's the least expensive way to go.

The next step up is a multiple pole and shelves of varying lengths and heights to accommodate different types of garments. Typically, the vertical positions holding up the poles are welded in the sides for adjustable shelving. The comparison can be cheap built and pre-assembled or, for a more durable (and expensive) look, surfaced with melamine or laminate.

The third option is a shop-built, prefabricated wood—essentially facades that are designed and dimensioned to fit your closet interior precisely. Custom made drawers, doors, shoe cabinets, shelving, and partitions give you the maximum amount of storage but also cost the most money.

Existing closets. The quickest way to increase storage capacity is to make the closet into a standard closet "system." The classic cartered wire basket system is widely available, simple to install, and inexpensive, but often has the drawback of being too deep to allow for easy access to smaller items. Garments can also catch on the wire shelving.

Supplier-installed modular systems, professionally designed and measured to fit your closet, cost less than a custom-ordered interior but are far more expensive than the do-it-yourself option. The upside is that they have true drawers, offer the maximum storage capacity, and have a nicely finished look.

WHICH IS A CLOSET NOT A CLOSET?

WHICH ITS PURPOSES? Sometimes building a closet isn't practical for economic or design reasons. Architects will make a lot of sense for hanging space. You'll have to trade off a little storage space for 10 to 20 percent, but you may not have several advantages over a closet of comparable size.

1. **Flexibility.** Unlike an interior, a closet is often the most awkward, which means your options for furniture placement are more limited.
2. **Cost.** Improvements, professionalized or custom, are usually cheaper than even the simplest comparable closet.
3. **Availability.** Like a piece of furniture, an interior can add to the look of a room.
4. **Sense of space.** Because an interior typically does not extend all the way to the ceiling (and often is set a few feet above the floor), it allows for a better appreciation of the full volume of the space surrounding it. ■

Control the clutter! For more storage ideas, go to www.hunterdouglas.com or America's Online Keyword: **The One Room and Up "Closet"** in the search bar.

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GETTING THE JOB DONE



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INSTALLING A BATHROOM VENT FAN

A bathroom without a ventilating fan is like a fireplace without a chimney: If you fail to pull the moisture generated in the bathroom out of there, it will migrate into the walls and grow mold and mildew, or blister paint and peel wallpaper. One reason many homeowners still don't have bath fans is that they can be a bit intimidating to install. That's why we asked *This Old House* general contractor Tom Silva to show us how. The bathroom here is below an accessible attic, so Tom ran the exhaust duct across the attic and out a gable end.

"It's always better to run the duct through a wall or unvented soffit, not out the roof, especially in snow country," explains Tom. "A roof cap is easily blocked by snow or ice, which dramatically reduces the fan's effectiveness." Plus, anytime you cut through the roof, there's a chance of a leak or condensed steam dripping back into the fan and rusting it. If your only option is to go through the roof, be sure to run the fan for 10 or 15 minutes after a shower to get rid of all the moisture.

Bath vent fans are rated by how many cubic

feet of air they can move in one minute, known as the CFM rating. To determine which size fan to buy for your bath, multiply the room's square footage by 17. For example, a 100-square-foot bath would require a 170 CFM-rated fan. Fans also have a sound rating, measured in sones. (A modern refrigerator operates at about one sone.) Vent fans range from as low as 0.5 sone up to about 6.0 sones. You'll find both the CFM and sone ratings printed on the vent fan's box.

Here Tom installed a fan-only unit, but other models combine the fan with a light, a heat lamp, or a light and

night-light. Some even turn on automatically when they sense motion or a sudden increase in humidity. If you're replacing a ceiling-mounted light fixture with a vent fan or combination fan/light, you can connect to the existing electrical cable and wall switch. If you're not so lucky, hire a licensed electrician to run new cable and install a switch. Note that vent fans that are UL-listed for installation directly over a tub or shower must be connected to a GFCI-protected circuit.

AVERAGE COST:
\$125 to \$150
TIME: 6 to 6 hours

TOOLS and MATERIALS

1. VENT FAN
2. CALIBRATING GUN WITH SILICONE ADHESIVE (for adhering wall cap to house siding)
3. LAYOUT SQUARE
4. CORLESS DRILL WITH 40-INCH HOLE SAW (for cutting duct hole through soffit)
5. EXTRA-LONG, 1/4-INCH-DIAMETER GRAB BIT (for drilling reference hole through ceiling)
6. JIGSAW (for cutting hole in bath ceiling)
7. WALL-CAP KIT
8. FOIL DUCT TAPE

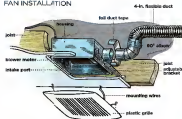
NOT SHOWN

Tape measure
Goggles
Duct mask
Extension ladder
Step ladder

Tapes (to protect floor and fixtures from duct soffit-drip) sheet metal duct elbow (to connect flexible duct to vent fan) 12-inch connector duct Cable connector

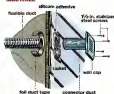


FAN INSTALLATION



VENTING OPTIONS

SIDEWALL



SOFFIT



ROOF



WARNING: Turn off the electricity to the bathroom at the main electrical panel, then continue it's off by tripping the light switch. Keep the power off until the new vent fan is reconnected.

BY JOSEPH TRUINI
PHOTOGRAPHY BY NELLIE J. KELLER
ILLUSTRATION BY GREGORY WENEC



BATHROOM VENT FAN

① DRILL A REFERENCE HOLE

- Draw a mark on the bathroom ceiling where you'd like to install the vent fan. For optimum performance, locate it between the shower and the toilet.
- Next, use an extra-long, ½-inch-diameter spade bit to bore a reference hole through the ceiling and into the attic (**CAUTION**).
- Climb into the attic and clear away any insulation frame around the hole. Also use the reference hole to determine the exact position of the fan.
- Measure the vent fan housing. Try to position the vent fan so that it's between two joists near the reference hole. Take account of any nearby pipes or other obstructions.
- Note the final position of the vent fan in relation to the reference hole.



② MARK THE CUT LINES ON THE CEILING

- Back in the bathroom, measure the inside dimensions of the vent fan's intake port to determine what size hole you need to cut in the ceiling.
- Use the reference hole as a landmark to transfer your measurements from the attic to the ceiling.
- Use a layout square or framing square to draw the rectangular outline of the intake port onto the ceiling. **(LEFT)**



③ CUT THE HOLE FOR THE INTAKE PORT

- For this step, be sure to wear protective goggles and a dust mask or respirator.
- Using a *gypaw* (a nonexpanding saw or drywall saw will also work), cut through the ceiling on the layout line (**LEFT**).
- When you're almost finished making the rectangular cutout, support the waste piece with one hand to keep it from falling and possibly taking some of the surrounding drywall or plaster ceiling with it.

④ POSITION THE VENT FAN

- Back in the attic, attach a 4-inch 90-degree elbow to the duct's port on the vent fan housing. Aim the elbow straight up and secure it to the port with duct tape.
 - Remove the breadboard hole on the attic fan housing and attach a cable cover.
 - Slide the four metal brackets into the protruding from the sides of the vent fan.
 - Set the vent fan down into place between the joists, centered on the ceiling hole.
- Tip:** Use flat duct tape (not fabric duct tape) to seal all edges over time.



⑧ ATTACH THE VENT FAN TO THE JOISTS

- Fully extend the brackets until they are **90°** in contact with the sides of the slots.
- Secure each bracket end with a single 1/8-inch drywall screw. Drive the screw **W** through the holes in the brackets and into the joists (**CAUTION**).
- Take the flexible duct that comes with the wall cap kit and slip one end over the elbow attached to the vent fan. Secure it with foil duct tape.
- Feed the existing or new electrical cable through the downspout. Then tighten 1/8 connector screw to secure the cable.



8 CUT A DUCT HOLE THROUGH THE SIDE WALL

- From inside the attic, select a spot on the sillboard for the finished floor to end the house. The location of wall end between two roof studs and within 1 foot of the vent fan
- Take a couple of reference measurements so that you can locate the spot from outside. For example, measure the distance to the duct location from a nearby window sill, or other feature you can access from outdoors
- Next, set up an extension ladder outside the house and mark the final location on the siding. Using a reference measurement
- Cut the duct house through the house siding a cut fitted with a 10-inch diameter hole saw (4077)



7 ATTACH THE DUCT TO THE WALL CAP

- Fit the 1/2-in. long connector duct to the well cap with foil duct tape.
- From outside, slide the well cap into the duct hole and push it tight against the house siding. Cut a foam rubber gasket to fit into any spaces where the well cap does not contact the siding.
- Place the well cap and apply a bead of silicone sealant to the siding and gasket around the hole.
- Slide the well cap into the hole and press it against the siding (ARROW) secure it to the siding with four 1/4-in. stainless steel screws.
- Now go into the attic and attach the free end of the flexible duct to the well cap with foil duct tape (ARROW).



⑥ MAKE THE WIRE CONNECTIONS

- From the bottom, unscrew and remove the blower motor from the vent fan housing. Save the screws.
- Next, unscrew the built-in outlet (receptacle) from inside the housing to expose to wiring. Again, save the screws.
- Use twist-on connectors to join same-color wires with the ones from the electrical cable you fed into the housing in Step 3, while to white, black to black (GFI).
- Wrap the bare copper wires under the green grounding screw inside the housing and tighten the screw.
- Place the electrical receptacle back into position and secure it with the two screws removed from its outlet.



⑧ ATTACH THE GRILLE

- Push the blower motor up to the ceiling, then push its plug into the electrical receptacle inside the housing.
- Secure the motor to the housing with the screws removed from its center.
- Hold the firm plastic grille close to the ceiling. Now, slip the grille's mounting wires into the slots inside the fan housing.
- Push up on the grille until it's tight against the ceiling (LEFT).
- Turn the power back on and test the fan.



Tip: If the grille doesn't hold tight against the ceiling, spread apart its mounting wires to create more tension.

25
ANNIVERSARY

AND YOUR OWN OF ONE

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Artist-Engineer Carlos Lora is working on a portfolio of garden sculptures. See page 162.

PHOTO: JAMES HARRIS

A LIGHT TOUCH

RETHINKING
A BAD '70S
REMODEL
CREATES
PLENTY OF
BRIGHT,
OPEN SPACE

If there is a home-buyer's heaven, it must be lined with houses that are already renovated to perfectly suit a person's tastes and needs—so no one would ever have to live with a previous owner's mistakes. But back to reality—and this 1970s Cape

Cod-style house, purchased 15 years ago by a ballet-school director and her dentist husband. On the plus side, it had a perfect location for the couple and their two children: sited on two wooded acres on a quiet lane, in a small town near Boston. With three bedrooms upstairs and a large family room, the house offered a more-than-adequate 2,800 square feet of space. Unfortunately, a good portion of that came from a poorly built family-room addition that formed an ell between the house and the garage and was just begging to be redeemed. (continued)

BY JILL CORNWICK PHOTOGRAPHS BY KELLER & KELLER
STYLED BY ELLEN FISSEL



OPPOSITE Card and dining. The old kitchen was awkwardly walled off from the living area. **THIS PAGE** In the light-bathed new space, an island (previously topped with black granite) holds the cooktop and functions as a bar/serve table as well. Double doors occupy the space where a side door once stood.



BEFORE
ABOVE: An add-on family-room wing joined the original Cape Cod-style house to the garage. **BELOW:** A mixed-wood scheme, garden-end finish, and yellow paint transforms the renovated driveway-side facade. A new half-roofed portico dresses up what is now the house's primary entrance.



ARCHITECTURAL DETAILS ADD NEW CHARACTER TO THE HOUSE, INSIDE AND OUT

AT FIRST, PHASES IN

"We found this house in the beginning," recalls the couple. "It was brown, inside and out, and felt terribly dark." The Cape's typical small rooms and steeply pitched roof didn't let in a lot of light. And the family room's stone walls and patchworkwood ceiling gave it a cluttered, together feeling. Worse, the room's steep pitch—and smell—droop, because its carpeting had been laid right over the concrete slab floor.

The couple took some major measures, whitewashing the predominantly brown family room and coating the dark brown exterior with light gray paint. All the while, they kept dreaming of a different house: light, bright, and airy. After getting to know architect Lynn Hopkins, who brought her young children to the homeowners' dance school, the couple started

What They Did

1. **RAISED THE FLOOR** in the family room—now two steps up—from the mudroom and two steps down from the kitchen.
2. **RAISED OUT THE FAMILY ROOM**, adding a door to the living room on one side and a vestibule leading to the new patio door on the other. A bay of windows creates a niche for a table and chairs.
3. **ADDED A HALF-WALL** to define the section entrance while preserving a feeling of openness.
4. **CLOSED UP THE SIDE DOOR** along the kitchen's end wall to allow for more work space and create a niche for wall ovens.
5. **PUT IN A BAYWINDOW** from the kitchen into the dining room, creating sight lines from one end of the house to the other.
6. **ADDED A BOX-BAY** of windows in the dining room.
7. **ENLARGED THE BEDROOM** and built a portico over the outside door.
8. **ADDED A SCREENED PORCH** behind the garage.

FIRST-FLOOR PLAN

2: renovated areas and new space



BELOW: Dark wood masked the entrance to the old family room, which sloped down 12 inches from the rest of the house. **BEFORE:** Raising the floor by 12 inches eased the transition into the new kitchen. A half wall partition leaves the sight line open and adds a new architectural detail.



to believe that their dark Cape could be turned into the house they envisioned. "The design process involved over several years," says Hopkins, who is based in Lexington, Massachusetts. Top requirements for the renovation: bring in more natural light, create a better traffic flow, merge and update the kitchen, and solve the family room's noisiness problems.

FLING THE FLOOR—AND MORE

Hopkins's smart design solutions delivered a house that feels much bigger, though in fact only 117 square feet of heated space was added. The bulk of the renovation took place at the family room and kitchen, adjacent spaces that had never flowed well together, in part because of a 22-inch step down from the main house. "The family room and a mudroom entrance off the garage had been added after the house was built," explains Hopkins. The plan called for getting the room and building up the floor 11 inches. "I decided to split the height difference," says Hopkins. "Below, you entered the mudroom and walked into the family room all on the same level, then stepped up four steps to the kitchen. Now, you enter the mudroom, go up two steps to the family room, then two more to the kitchen." To build up the family room



A lot of my interest in the kitchen was about how it would look at night. I wanted it to be a place where you could sit and eat and have a great view of the city.



floor, local contractor Hubert Flinn removed the carpeting, laid a moisture barrier over the existing slab, then added deep-set, floor joists with insulation in between, and a plywood subfloor topped with oak plank flooring.

To maximize the feeling of spaciousness in the family room, where the ceiling rises to a 35-foot peak, Hopkins more than doubled the number of windows. She extended one side of the room with a bay of windows over two double-hung windows overlooking the backyard. For the passageway from the family room to the kitchen, she created a half-wall with steps on either side of it. This columned partition preserves some of openness between the two rooms while still providing some separation.

After getting the kitchen, Hopkins gave it a new layout made possible by eliminating a double door—a side door that hugged one corner of the sink wall. That gave the kitchen an extra 24 square feet—a small addition, but in a critical location. She improved the traffic flow from the kitchen to the dining room by adding a doorway between the two rooms. This opening also creates a line of sight from the dining room all the way through the kitchen to the family room and mudroom, adding to the house's newfound sense of spaciousness.



ABOVE: The old family room had a dreary fluorescent door. **TOP:** A large bay of double-hung windows, a shelf over the bay, and a door-door transition give the enlarged room a bright, airy feeling, in clean yellow and white paint.



LEFT: The original porchside facade was virtually windowless.

BELOW: An owl window, a bay of twelve-over-one double hungs, and the full openings of the screened-in porch (extreme view shown at right) bring more light, air and views into the house.



WELL-THOUGHT-OUT ADDITIONS

While the owners wanted to retain the original Cape's New England character, the well-Scandinavian heritage—and even to the Swedish-country home of artist Carl Larsson, also infused with popularizing the Swedish style—were also an inspiration. Architectural elements of that style include using a variety of decorative wooden motifs and creating niches for specific activities. An owl window, a bay of twelve-over-one double hungs, and a three-light transom relieve the porch-side facade. Inside the family room, nest in the light-filled window bay, are a table and chairs where the kids can do their homework. Patch decorating the gable ends are another Scandinavian touch.

One last feature—a brand new screened-in porch—expands to the house's woodland setting. At just over 500 square feet, the unheated space has a 18' foot ceiling, a mahogany floor, and tall screened openings that face the main. For the couple and their row-razing kids, the very space has proven to be a favorite spot in which to kick back, relax, and enjoy the fruits of their renovation. ■

For more information about expanding and redefining a home, go to www.thisoldhouse.com or America's Online Keyword: This Old House and select "Renovation and Adding On" in the Window-Box section.



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WHY DIDN'T SOMEBODY TELL ME?

25 THINGS YOU NEED TO KNOW BEFORE STARTING A REMODELING PROJECT

BY MARK ALEXANDER
ILLUSTRATIONS BY TIM BOWEN



There's no end to the things that can go wrong on a remodeling project. And we're not even talking about big no-nos, like getting taken in by a shady contractor or not having enough money in the bank. We're talking about the stuff only somebody who's been through the process can know. Like waiting until the end of the day to start a plumbing or wiring project, or failing to measure your dinner plates before planning out kitchen cabinets.

Here at *This Old House*, we've probably seen every mistake in the book. So we decided it was time to pool the experience of our crew, our readers, and our viewers to impart some hard-earned wisdom on the subject. To start, we conducted a survey on our Website, asking folks to share, via 20/20 hindsight, the biggest problems they've encountered when remodeling; the advice they wish they'd been given; and the tips they'd most like to pass on to others. Then we sorted through the responses and came up with the 25 suggests that follow. Three trouble spots topped everyone's list: money, time, and relationships, so we got additional experts to weigh in on those (see the "Creative Coping" tip boxes). If you think we've missed something, let us know; like most Americans, we'll probably renovate next year.

1 ASSUME NOTHING

Hands down it's the First Commandment of Remodeling, repeated like a mantra by readers and viewers and affirmed by the FOH crew in massive large and small, making assumptions is what leads to trouble. Don't assume your budget will cover what you've planned. (It rarely does, whatever you're budgeted, set aside at least 10 to 20 percent more.) Don't assume workers won't scratch the original floor. (Someone will, unless the floors with corrupted, left or plywood in between.) Don't assume the box on the delivery truck contains the indigo glass tile you ordered, no matter what it says. (Open and examine it before signing.) Most important, don't assume anybody you're hired is a word master. Speak up for clear talk about what you want—constantly—and don't let problems fester.

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2

JUST BECAUSE YOU CAN'T SEE IT DOESN'T MEAN YOU CAN IGNORE IT

Ask TGH general contractor Tom Sileo to name the biggest remodeling mistake, and he doesn't hesitate. "Trimming shortcuts," is a new edition that is poorly framed will eventually flex and ruck, leading to cracked walls, creaky floors, water intrusion and rot. Yet it's common, because contractors know that homeowners are on a limited budget (and who isn't?) would rather "trim it in" than tell you the truth. One way to ensure solid framing is to insist that your contractor follow the "Code Plus" framing guidelines established by the American Wood Council, or better framing besides the budget. Some money invested in stiffer surfaces that can be upgraded later.

66 FLOOR FRAMING IS ALL TOO COMMON BECAUSE MANY HOMEOWNERS WOULD RATHER SPEND MONEY ON GRANITE COUNTERTOPS THAN ON BRACING IN THE WALLS.

—TOM SILEO

DEALING WITH THE MESS

HAVE A THIRD EYE. The less you own, the less there is to get in the way. Yes, you'll meet neighbors who will have you over for a barbecue when the kitchen is ripped up.

GET THE DEMOLITION OVER WITH. Do all the dirtiest work, then leave everything up if you try to dig deeper in phases, you'll be living in a construction zone for months and non-stop moving stuff from place to place.

DESIGNATE A SWITZERLAND AND A GERMANY. Switzerland is the area of your house that a not-spore get involved if you don't have that, remove, you'll go crazy. Germany is the area that is paper-organized—very tidy and place of hardware in its place—so you don't waste half your time looking for things.

MEET FRIENDS WITH CATS. Cats have owners, unless you are a visitor, and someone has to take care of the cat. That's how you get your place to stay.

—Lorenza Lofgren, author of *Virtual House in the South in My House, My House, My House*

3

MATCH, DON'T MIX

Mixing changes that respect the architectural integrity of your house. "The remodel should always match the period and character of the house," says Tom. I tell my clients, if you want a contemporary remodel in an old house, modernize with things that aren't permanent, like light fixtures and furnishings, not the house itself. You'll be glad when it's time to sell, because the end buyer might not want sliding glass doors on a 19th-century farmhouse.

4

LIVE IN THE HOUSE FIRST

Heaven forbid the remodeler's body and cash are with pleasure are rewarded. Says TGH executive producer Bruce King. "Until you know how the sun shines across the yard, what the rain starts, what door you really use, how much time you spend in each room, how awkward the entry is, and who knows what else in terms of your home's history and what you don't know enough to change it," he says. "Live in the house before you force it into a shape you may regret later."

5

BE WILLING TO WAIT

"Good contractors are busy," says TGH host Kevin O'Connor who's called his share. "If they're not, you have to wonder why. So expect to wait, and recognize it will be worth it in the long run." The same holds true for basic. Don't jump at the lowest price. The guy who gives you a lowest figure may also deliver super quality.



6

LISTEN TO YOUR ARCHITECT

Having an architect for big projects is the best way to get the big picture up front. An architect will also give you questions about your lifestyle and needs as there's less chance of finding out later that instead of a master suite all you really wanted was a bigger bathroom. Plans and detailed construction drawings, which contractors bid on, will also help you establish a realistic budget for construction materials. But people often think they can go it alone. "I've seen many examples of folks who called in an architect, didn't like what they were hearing, and consequently decided to do without the architect," says King. "Not only were the level projects toward the jobs back longer and cost more than the clients thought they would, but so the architects had predicted." Since most architects charge by the hour, hold down costs by using their time more efficiently. Visit showrooms, clip photos from magazines, and bring along anything else that will help you give a detailed description of what you want.



7

BLUEPRINTS SOMETIMES AREN'T ENOUGH

All too often home renovation is a set of blind faith. That's because it's hard for homeowners to visualize 3-D space from a flat blueprint and architectural models are too expensive for most residential jobs. "People say, 'I got the idea,'" says TGH creative director and founder Russ Moroski. "But they really do." He advises: For heavily used rooms like the kitchen, make a full-scale layout on the ground floor or driveway to get a sense of the proposed change before you build it. And talk over the blueprint carefully with your architect and builder if you don't get it, what's the point?

8

MAKE THE BIG DECISIONS EARLY

After Kevin O'Connor and his wife renovated the second floor of their century-old Boston-area home, they decided to turn the attic into living space. But to get best and second-hand items as there they will have to leave into downward rooms that are already finished. "There's nothing more demolishing from having to knock down over work you've already done," Kean says. Not to mention that such decisions can hold up a project, and even the budget.

9

INSULATE EVERYTHING

There could be a home somewhere that's been overbuilt. But Tom has never seen it. "You almost can't have too much," he says. Insulation does more than keep your house warm in winter and cool in summer. It cuts down on noise (especially if like Tom, you reside between floors) covers on half-water bills, if you install properly and keep out moisture (one reason to replace old weatherstripping on windows and doors). "It's the cheapest way I know to buy comfort," says Tom.

10

FOR HVAC, BIGGER ISN'T BETTER

If you live in a cold winter climate, about half of your home's annual energy bill goes to heating. TGH planning and heating expert Richard Trethewey says a lot of that money gets wasted because many HVAC contractors install systems that are too large. "They design for extreme weather conditions that represent about 2 percent of the year and then add a safety factor of 50 to 100 percent," he says. "For most of the heating season the system is too big and cycles on and off, wasting fuel and wearing out parts." If you're adding in a new heating system or replacing an old one, think efficiency first.

IF YOU'RE REPLACING A HEATING SYSTEM, THE CONTRACTOR THAT EFFICIENCY IS YOUR PRIME CONCERN, NOT THE ABILITY TO WEAR SHORTS IN JANUARY.

—RICHARD TRETHEWEY

CREATIVE COPING

STAYING ON BUDGET

GRUNCH HUNTERS. To figure out how much you have to spend, call out the big-dollar items that are critical to the character of your house. One percent of a state's real-estate market is sold on later. You can always go back and install a built-in bookshelf or apron sink, even. Expect to go over budget by at least 10 to 20 percent. If you can't afford that, lower the budget for the job.

NAIL DOWN ALLOCATIONS. Estimating a personalized amount of money in the contract for the future, and other clients to be decided later can be the single biggest source of cost overruns. That's because rough estimates are often way too low. It's hard to try to pick up everything ahead of time, but if you can't, check out prices (the Internet is one of the best) to get a realistic sense of what things cost.

KEEP YOUR EYE ON THE CHECK. It's easy to get swept up when remodeling your home. You will have to make the line when necessary and compromise on expensive products and solutions. It's all worth going into deep debt.

—Jill Christy, home insurance columnist and author of *Top 10 House Rules to Know in the Endless Day*





11 ONLY A FOOL HAS HIMSELF AS A CLIENT

To serve as your own general contractor, you need: time, contacts, and expert knowledge of the building process. You simply can't command the agility and attention of the best subs and suppliers like a pro contractor who gets their meals off their business. And when you square your worth per hour of your regular job, it probably won't be worth what it will cost you in your time.

12 ENTHUSIASM CAN GET YOU INTO TROUBLE

Nearly 60 years ago, Eliahu Mordechai was adding a master bathroom to his home. Before cutting back with a reciprocating saw on the wall he had to remove, he made sure there were no pipes or wires buried in it. But he forgot to check the other side of the wall—where one of his wife's brother's favorite paintings was hanging. "I made a nice, straight vertical seven-inch cut right through the painting," he says, wincing at the memory. "That's what happens when you're not careful."



13 CALL IN A LANDSCAPER EARLY

TDI landscape contractor Roger Cook sees it all the time. Mature landscaping gets ruined when a remodeling job turns the yard into a construction site. Most damage can be prevented by planning ahead, he says. "Before the project gets under way, a landscaper can tell you which established plants are worth saving and transplanting for reuse. It's also smart to put a protective fence around large trees. Otherwise, they get hit by equipment, the root systems are compacted by trucks, and in a few years they will die."

WHEN A LANDSCAPER COMES IN FIRST AND TRANSPLANT SMALL TREES AND SHRUBS TO A HOLDING AREA, THEN REUSE THEM IN THE NEW LANDSCAPE.

—ROGER COOK

For more advice and information about remodeling projects, go to www.thisoldhouse.com or America's Online Keyword: This Old House and type "remodeling" in the search box.

14 WORK FROM THE OUTSIDE IN

Homeowner advice columnist Tom and TDI's master carpenter Norm Abrams if it's better to tackle the outside of the inside of a house first. Both agree getting the exterior done early in the house is straightforward and smart. "We plaster the ceiling if the roof leaks," says Tom.

15 MAKE SURE YOU'VE GOT LEVERAGE

Most contractors are honest and will come back to finish something you've already paid for—eventually. But you'll be higher on their priority list if you still owe them money. Don't test human nature by paying in advance. Contractors charging a flat fee often collect in 30 percent increments, with the last 10 percent withheld until the "punch list" of final details is finished. Be sure the contract spells out which to be completed at each payment stage. Some contractors, including Tom, work on a "time and materials" basis—charging exactly for materials and labor plus a markup for profit in the job progression. That way you know the contractor is not going to bail short-term," says Tom. For more financial advice, see "Creative Coping/Stepping on Budget," page 123.

CREATIVE COPING HIRING A CONTRACTOR

To see if a contractor is right for you, talk to previous customers. Ask for 10 references and call at least two to find out if the contractor follows, how he handles money issues and whether he keeps a clean and safe job site. Treat your instincts. No matter how glowing a referral, if you're not comfortable, he's not the guy for you. The National Association of the Remodeling Industry (NARI) also supports asking:

1. How long the contractors' been in business and what percentage of the business is repeat or referral.
2. Who'll be working on the project, and if they're employees or subcontractors.
3. What the approach to your project will be, and how many similar projects they've done before.
4. Whether licenses, worker's compensation, and liability insurance certificates are current. Ask to see them, and follow up with your state's Consumer Affairs Department for any complaint history currently in force.

PHOTOS: TDI LANDSCAPING/DAVID L. DODD

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16 SOMETIMES YOU CAN LIVE WITH THE LEAN, SOMETIMES YOU CAN'T

You can eyeball and fudge modest projects like chair rails, but many upgrades require plumb walls. "Once I had to put a new sub-carpet in an old bathroom where the exterior wall was way out of plumb," recalls Norm. "So I built out the wall on the inside using tapered extension joints in the windows. The outside still leaned, but the inside was plumb."



OUT-OF-PLUMB WALLS AND SLOPING FLOORS ARE COMMON IN OLD HOMES, AND REMODELING JOBS INvariably FORCE YOU TO DEAL WITH THEM.

—NORM ARMSTRONG



17 DON'T CONTRIBUTE TO THE DOMINO EFFECT

It's a line of remodeling that solves one problem uncovers another, but don't panic if you're by adding elective projects. Before you say "While you're at it..." remember that any job not specified in the contract is a domino new project with its own price tag. It's only worth it if the extra work will improve your home's basic structure and efficiency. Good example: A wall is ripped open for new plumbing, and the contractor says it could cost more to replace. Good example: A wall is ripped open, and you decide to panel the room.

18 DON'T TRUST YOUR MEMORY

Documenting your project is a smart idea and requires no special skills. When Norm was building his house, he took digital photos of every open wall and made careful notations on the placement of wires and pipes. Sometimes those notes and photos (conveniently burned onto a disc) will come in handy. "I ran speaker wires in rooms where I wasn't planning to put speakers," he says. "But if I ever change my mind, I will know right where the wires are."

19 SWEAT THE SMALL STUFF

Homeowners often leave details up to the contractor if they pay attention to them at all. But even the blindest things—small rolls of caulk, brooms, style of moldings and baseboard—can make a big difference in the look and quality of the finished project. Other details that often get overlooked in the shuffle are electric switch placements. Walk through the job with your electrician before he starts work; cabinet depths. (Make sure your china will fit.) and window and door hardware (if you don't specify you're likely to get the lamer variety). And remember, having to go out even once to fix an incident and start over will cost you time and money.



WE ASKED, YOU ANSWERED Advice from our Web survey:

- BE PICKY about choosing your help—even if it's free.
- NEVER START a project in the rainy season.
- FOLLOW THE 4 P'S: Proper planning prevents p****-poor performance.
- Whatever the salesperson says, ADD THREE WEEKS to the delivery date.
- Set a REALISTIC TIMETABLE for completion—then add 25 percent.
- Don't remodel ALL YOUR BATHROOMS at the same time.
- Don't hurry, the time you save is not worth the MISTAKES YOU MAKE.
- Dogs and cats LOVE TO EAT FIREGLASS INSULATION.

20

SHORTCUTS ARE NEVER FASTER, SMARTER, OR BETTER

Caring about quality doesn't mean breaking the bank on basics, or buying every power tool in the catalog. It means recognizing that achieving the level of your budget, breakfasts and evenings and up-to-date repairs down the line. It's no secret to what you can't afford a handcrafted cherry kitchen with full floor doors: what you can do is save up enough to get simple but strong paint-grade cabinets.

CREATIVE COPING

PRESERVING YOUR RELATIONSHIP

TAKE A TEST. If you're not sure you and your mate can work well together, try a small project first. The jobbing is more. You'll quickly see differences in your work styles—and how well you tolerate them. If you and your spouse have different styles, divide and conquer jobs and decisions, and negotiate the division clearly. Maybe she picks out the color schemes and he paints, or maybe she paints the walls and he does the trim.

BEWARE DEADLINES. Don't put undue pressure on the relationship by pushing to complete a job before an upcoming party, wedding, or other deadline.

DO A TOLERANCE CHECK. Carefully evaluate how tolerant each of you is of dust and clutter, and how driven each of you is to get the project done reality. You'll be okay if you're both driven or both laid-back, but if one wants to proceed at a leisurely pace and the other can't stand a prolonged mess, you're headed for trouble. Decide on realistic deadlines and make the work as pleasant as possible.

—Stephanie Linds, author of *Heart of the Home: How to Find Love, Live to Make It Work*

21

WATCH THE CLOCK

"Doing it yourself" is great," says Kiser, who has tackled just about every aspect of his renovation. "But you have to know your own limitations. If you're tackling something complicated, like electricity or plumbing, be prepared for it to take longer than you think." And never start a big project on a Sunday when doors close early, leaving you high-and-dry if you have to make a parts run.

NEVER START PLUMBING OR ELECTRIC WORK LATE IN THE DAY—IT COULD LEAVE YOUR FAMILY OUT OF WATER OR IN THE DARK.

—KEVIN O'CONNOR



22

THERE'S NO SUCH THING AS A STUPID QUESTION

In my experience, homeowners don't ask nearly enough questions," Naim says. And the truth is, a lot of contractors discourage questions. Don't be fooled. If you have a gut feeling that something is wrong, just ask nicely. "You might be right—and at worst, you'll learn something."

23

GET OUT OF DODGE

The volatility of making work, and homeowners who've lived through it, usually wish they'd moved out during the project. At the very least, get your stuff out of the way. If you have to stay put, clean up each day and try to stay focused on the end result. (For more pointers, see "Creative Coping/Dealing With the Mess," page 122.)

24

SURPRISES AREN'T ALL BAD

Under every floor behind every wall lies a surprise. You hear about the horror stories—The Swamp Pipe That Time Forgot—but remodeling jobs often yield exciting surprises, like gutters with old, floor hidden under plywood and vinyl. Good or bad, take a deep breath—and learn to take it stride whatever your house gives you.

25

REMEMBER, IT'S ONLY A HOUSE

Stressed relationships come at high cost: our survey of remodelers found, so keep talking to your spouse. Consider a division of labor—one person handles the contractor, the other researches lighting and paint colors—so nobody feels left out and no effort is duplicated. Take it from Tom Hoan Kiser, Richard and Roger all happily married guys. "It's only a house. [Your relationship] shipwrecking advice: see the box above."

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STYLISH ACCENTS UPGRADE
A MODEST COTTAGE
WITHOUT STRUCTURAL CHANGES

SMALL WONDER



TOP The 1927 house looked neat and tidy, but it had never been updated. **ABOVE** A sophisticated redo relied on low-cost/high-impact changes like a new brick walkway to greet guests.

A renovation doesn't have to completely scramble the floor plan or cost your life savings to be successful. Even small changes can make a dramatic difference. As a case in point, fresh new wall colors, crisp white moldings, and other simple do-it-yourself projects transformed this long-neglected North Hollywood bungalow into a showcase for an artist-turned-producer/talent manager and his collection of art.

However, the modest 1,223-square-foot house that Richard G. Murphy bought a few years ago hardly suggested such potential. While it had hardwood floors, three bedrooms,

BY KATY PRICE-ROBINSON
PHOTOGRAPHS BY MICHAEL WESCHLER
STYLED BY SUNDAY HENDRICKSON



Renovating doesn't have to mean tearing down walls. **TOP LEFT:** Plain white paint and new white wallpapering lend a classic feel to the master bedroom. **TOP RIGHT:** Simple molding conceals up-grab art when cabinets along with new countertops behaved out of



dressed butcher block. **BOTTOM LEFT:** The bathroom update included a blue ceiling, brick floor and a vintage tub. **BOTTOM RIGHT:** White wallpapering and crown molding "pop" against the dining room's sage-green walls.



Simple window treatments and tape wall were the only embellishments added to the living room.



Working within the same footprint of the 1,228-square-foot house, the homeowners:

- ① **Improved traffic flow** by removing doors between the living room and the dining room and an adjoining hall. The opening between the living room and dining room was also widened to create a more spacious feel. In this part of the house and a long, columned bookcase partition was built to create a separation of spaces without losing views through the house.
- ② **Converted a bedroom** to a den. In the process, the single door leading to the backyard and its new deck were replaced by French doors.
- ③ **Made cosmetic upgrades** throughout the house. These included installing vinyl flooring and molding to help unify rooms and updating the kitchen with new appliances, countertop, flooring, laundry closet, and a bigger window for views of the yard.

a formal dining room, and an extra kitchen, it looked fine. Only the living room had custom touches—original moldings and a pencil wall surrounding the fireplace, all the other rooms were bereft of such detail.

On the plus side, the home's covered porch, exterior stoops, and detached garage rounded out the completed New Englander of a Cape—style was structurally sound. The fact that the house hadn't been updated since it was built in 1917 sealed the deal. "I liked that it hadn't been moved with," says Richard. "It was like an empty canvas."

SAME SPACE, NEW LOOK

Working with a small budget, Richard focused on inexpensive upgrades that would make the biggest impact. To improve traffic flow, he removed some awkward doors from much-used rooms. In another space-enhancing move, he cut a wider opening between the living and dining rooms to suggest a sort of great room. And he built a two-sided bookcase in the piping space between the living room and adjacent hall. "Books warm up a house," says Richard.

Taking inspiration from the smoking and painting in the living room, Richard, with the help of a handyman, unsealed rove and base moldings in the dining room, hallway, and bedrooms. "It found something at my local home center that closely matched," he says. For



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added charm, Richard wrapped the rooms in 3-foot-high wainscoting capped with chair rail. "It looks original to the house and connects the rooms together," he says.

PUNCHING UP THE COLOR

While other adventurous homeowners would have gone for a light color scheme throughout to make the diminutive home look more spacious, as artist Richard decided to take a much bolder approach. The dining room's olive-green hue was chosen to match shades of two framed prints. The blue-black paint made upper walls of the den a controlled, formal glow, a favorite painting to ooze "pop," leading the room's strong personality.

Indeed, Richard learned that decorating wisdom during trips to the Metropolitan Museum of Art in New York and the Getty Museum in Los Angeles, where he observed that the old masters were not enamored on white walls, but against rich blues, oranges, and burgundies. To keep his choice of the bold colors from overgrowing smaller rooms, he painted the wainscoting glossy white. And, to create a more refined—yet interesting—atmosphere in the bedrooms he chose a textured suede-look paint, applied with a 3-inch brush in a cross-hatch fashion.

Even the collage in the kitchen and bathroom benefited from his fearless color expertise. Painted dry blues, "they hang on outside living interiors," he says. "Being an artist gave me the courage to take risks with color," says Richard. "And if I ever give need of it, it's sure pristine and easy enough to change." (continued)



PROJECT PARTICULARS

REMODELING COST: about \$66,500

HOW LONG IT TOOK: 12 weeks

WHERE I SAVED: Leaving original kitchen cabinets in place and embellishing them with molding instead of replacing them.

WHERE I SPILLED: Installing wooden plantation shutters throughout the house cost about \$8,000. The advantages are that they control light better than curtains, help keep the house cool, and unite the look of the interior from room to room.

WHAT I'D DO DIFFERENTLY: Build a pergola atop the backyard deck, turning it into more of an outdoor room and lots of a patio. To do it now would require adding larger footings.

BIGGEST CHALLENGE: Creating a sense of privacy on a very small lot.

HOW I SOLVED IT: Replicated the cracked sidewalk from the front door to the sidewalk with one that leads from the driveway to the house allowed me to grow a tall privacy hedge across the property in the backyard, tall hedges and trees surrounded an open lawn.

TOP: In the den, the *Portrait of a Man* (with *Plaque*) whose dimmer tone fits nicely as a backdrop for his art collection. **BOTTOM:** Matching built-in bookcases flank the desk. **CRUISE:** Classics in the club chair.

TELL US YOUR STORY

Did you renovate your house and do most of the work yourself? If so, we'd like to hear about your project. Please send copies of before and after photos, a floor plan (or a verbal sketching master sketch), and a brief description of the work you did to:

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Popular since the 1930s, a schoolhouse pendant lamp adds period flavor to the kitchen. In this rendition, the classic white opal glass globe is offset by a distinctive rope design stem and brushed nickel finish. www.danerendesignlighting.com

BRICK FLOORS

Not just for outdoor use, brick pavers can be laid like any other stone floor. The homeowners used the same bricks installed in an exterior walkway to "tile" both the kitchen and bathroom.



VINTAGE CHARACTER

Although it looks like an original Arts and Crafts fire cure in the 1937 house, the customized bookcase that separates the living room from an adjacent hall was created from scrap wood the homeowner had on hand. The pillar is made of 2x4s. The box at the base and the dusties above are made of 1x6s with a routed edge, cone molding, and chair rail.

See two decades' worth of homes transformed. Go to www.thefixation.com or American Garden Network's *The Old House* and select "Old Housing Projects" from the Television Programs section.

FOR MORE INFORMATION, SEE DIRECTORY PAGE 106



Thousands of Possibilities

GET YOURS



25

YEARS

TWENTY-FIVE YEARS OF INNOVATION

WOOD FLOORING

Variety is the hallmark of today's wood flooring industry, with more woods, types of products, and finish choices than ever before. Bored with red oak? How about Siberian larch, Brazilian cherry, or Australian spotted gum? Finish options are no less wide-ranging, with new, safer formulations and more flooring available prefinished at the factory. Then there's the biggest change of all: the rise of engineered flooring, manufactured from layers of wood veneer laminated together for maximum strength, stability, and convenience. For more wood flooring trends, turn the page.

Twenty-five years ago, most wood flooring was solid oak strips, 2 1/4 inches wide by 3/4 inch thick, nailed in place by a carpenter and finished on site. Now just over half of all flooring is prefinished in the factory, and 60 percent of that is engineered flooring that goes down in a day. There's a faster, easier, and more affordable way to do just about everything. In 1979, for example, creating the tiled resolution at right would have required hours of laborious sanding and costly hand-gluing. Today, computer-controlled lasers can do it in a fraction of the time with breathtaking accuracy.

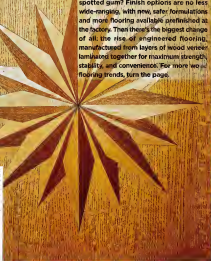


PHOTO: JEFFREY M. HARRIS

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WOOD FLOORING

SOLID WOOD

Wood flooring cabinets are bringing its best a little like backs of joint edges. One company offers solid wood flooring in its domestic hardwood species, four widths, three grades, 14 colors, and two types of finish—actually a fairly modest selection, considering that nearly 50 species of wood are now used for flooring, almost half of them “offshore” woods from places like Brazil and Australia. Then there’s wood from sustainable forests, grown under controlled conditions, and lumber reclaimed from old buildings, milled six, and over bottoms. Expect to pay between \$6 and \$10 per square foot (detailed) for readily available species like red oak, more for exotic and reclaimed woods.

RED OAK



WHITE OAK (HARDSET)



SOUTHERN YELLOW PINE



COUNTRY OAK (FOREST SALVAGE)



WHITE TIGERWOOD



IT'S ALL IN THE SAW

The look, performance, and cost of solid wood flooring depends in large part on how the boards are cut from the log. Plain-sawn (also called flat-sawn) boards (A) have growth rings that run at angles from 0 to 45 degrees to the wide surfaces of the board, resulting in a beely face with the logs and joints of a topographic map. In contrast, the face of a quarter-sawn board (B) is orderly and restrained: the result of growth rings that run from 45 to 90 degrees to the wide surfaces. Saving methods also affect how a floor

reacts to changes in moisture. Plain-sawn boards shrink and swell primarily across their width, which can open or close cracks between boards as the seasons change. Quarter-sawn boards change primarily in thickness, where the environment is less dramatic and far less noticeable. Quarter-sawn boards also wear more evenly and take finishes better. Add to that, higher manufacturing costs, and it's no surprise that quarter-sawn flooring typically commands 25 to 50 percent more than flat-sawn products, whether solid or engineered.



WOOD: COURTESY, WOODCRAFT, AN OVERSEAS



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The morning sun awakes your kitchen as the warm aroma of coffee floats on the crisp fall air. Each day begins with the easy comfort of Rose Hall Arch cabinetry in delightful honey finish accompanied by dramatic midnight accents.

New Rose Hall Arch features the popular arched oak on one maple door, complementing arch design trends in today's home construction. Matched doors and select drawers provide ample storage space for your favorite cooking essentials. Glass front drawer base cabinets in midnight finish add interest to the room as well as extra deep drawer space.



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TWENTY-FIVE YEARS OF INNOVATION

WOOD FLOORING

ENGINEERED WOOD

Perhaps the most noticeable change in wood flooring over the last 25 years is the development of engineered flooring. A kind of engineered plywood, products typically consist of three, five, or seven layers of wood veneers, each oriented at 90 degrees to the adjacent ones. The layered construction makes engineered flooring more dimensionally stable than solid wood, so it will shrink and swell less with changes in moisture. That's why you'll see wood flooring lasting longer, preserving strength and stability, from bedrooms to bathrooms. Moisture picking is comparable to that of solid wood, but limited only to typically less.

BAMBOO

OAK

LONGSHOT FLOORS

WALNUT

BRAZILIAN CHERRY



Overly rare in U.S. forests, bamboo is an adaptation in South America. It takes only about 30 years for the crop, a hybrid of two susceptible species, to be ready for harvesting.

FUTURE FLOORING OPTIONS

If the current demand for wood flooring continues, future consumers will surely have even more choices, from an ever-changing range of veneers. Increasingly, solid wood will be considered simply as one form of a natural resource that can be clipped, peeled, ground, sliced, or otherwise disassembled and then recombined with adhesives and various other ingredients.

Wood from sustainable forests, grown and harvested under carefully managed conditions, will be one or more of new flooring materials. One example is ipe, a natural hybrid of two eucalyptus species being grown in plantations in Brazil. According to Oak, Anderson of Wyeth-Hess, which reports ipe as a flooring, 100-foot trees can be harvested about 15 years after planting. By comparison, red oak takes about 40 years to reach harvestable size, cherry 60 years. In the future, look for colorized hybridizations to plant other options for fast-growing, renewable resources.

ENGINEERED TO DECEIVE

The top or "wear" layer of engineered products is what gives the floor its look as well as its durability. It ranges from 1/8 inch to almost 3/4 inch in premium flooring. That may not seem like a huge difference until you consider that one millimeter of a wood floor's life is how many times it can be sanded and refinished (typically one to four times). Total solid solid wood flooring is 3/4 inch thick, while engineered flooring—base plus wear layer—ranges from 1/2 to 3/4 inch thick.



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OPPOSITE: Seen from
an upstairs window of
the main house, the
demolition site is a
mish-mash of a modern
remodel. THIS PAGE:
The debris will be
recycled by a recycling
center where workers
will sort the materials
for a recycling sale.

RAZING ELL

THE CARLISLE TV PROJECT LOSES ITS HOUSE-TO-BARN
CONNECTOR TO MAKE WAY FOR A MODERN ELL

BY MAX ALEXANDER PHOTOGRAPHS BY FUSSELL KAYE

It looks simple. Order up a backhoe with a bucket the size of two men, dig a few less-inches in the soil, and you're something. But while experts make building foundations look easy, it's anything but. Here is something we do regularly on The Golf House, where homes are preserved and reworked for future generations. You despite the controlled destruction you see here, preservation is the plan for the 1949 Handford House, site of TGM's 25th-anniversary TV project in Charlotte, Massachusetts. By tearing down the tired, dysfunctional old concrete and replacing it with a new structure, TGM general contractor Tom Silva and his crew can bring the classic Grand Revival main house and the 33 by 30-foot 19th-century New England barn newly into the 21st century.

The last within construction and hand-borne beams, has problems of its own—mostly rotted sills and floors that must be replaced. But to get to the base of the 45-ton beam, Team needed to pick up the whole structure. To do that, a crew from Northeast Building Movers spent a few days positioning massive steel beams under the beam. Eight hydraulic pads under those beams can probably lift the beam 20 inches, giving Team plenty of room to install the new floor. "Putting a beam is actually pretty simple," says Tom. "It's just glad we don't have to move it anywhere." Team spent much of



ABOVE: A network of steel beams under the turn floor will bear the weight of the structure for weeks while TCH general contractor Sam Silva and his crew replace the riding floor and lifeline. Tony TCH lead Alvin O'Connor and ladder tenderer Norm Almon (right) cut the 60-in. moments before the jacking begins. Greider Arnes is one of the four winching platformers, each one hoisting two jacks.

The WebCams are on! To watch the show right now on one of our live live cameras, go to: www.thisoldhouse.com or America Online Keyword: This Old House and click on Television Programs.



TOP: Supply the bulk of your food at home, a common idea.

lubricate the jacks with oil through holes into the eight jacks that rise 10 ft from the foundation. Each jack must rise at precisely the same speed, or the beam could tilt dangerously. After moving the building 16 inches (the limit of the jacks' working travel) more-circling and reset the jacks for a second lift.



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large building even a short distance can cost more than building one new—which makes the \$21,000 price tag for the bump-out seem cheap.

As the bump goes up, the oil comes down. Demolition falls to a familiar face around TCM job sites: John Aulio of J.M. McLaughlin Excavating. "I'm going to use the collar of the oil like a giant eating bowl," he says on-site. "I'll try to knock all the debris into the collar, then crush it into small pieces for the recycling center."

First things first: Before Johnson up his excavator, Tom and his subcontractors disconnect all the building's systems. Then Tom uses a reciprocating saw to finally cut the oil

free of the main house and barn. Meanwhile, a town inspector confirms that the building contains no hazardous materials like asbestos. Demolition permits in hand, TCM director David Van is finally ready to yell, "Action!" Aulio swings into gear, and within two hours the oil is, well, history. ■

ABOVE: Director David Van sits up a remote camera on the excavator's boom for a dramatic-Melrose shot of the city demolition. **BELOW:** After a long day, the team is joined up. No oil is gone, and TCM cameramen Steve "Glee" D'Onofrio takes a well-deserved break on the front porch, at right. But demolition expert John Aulio (on the excavator) still needs another day to remove all the debris, including the old foundation, before a crew can begin preparations for a new foundation.

CONVERSATION PODDER



"Look what I found," says one of Tom Silver's workers, pretending to toss an iron ball the size of a grapefruit at the TV crew, who are sitting around the dusty parlor floor eating lunch and talking about the project. "A cannonball!" reply four people in unison.

"What'd it come from?" asks producer Deborah Hood.

"A cannon," says Tom, with a smile. In fact, it came from inside a bathroom wall. It's anybody's guess when or why it got there. Someone suggests it could have been used as a sink weight.

Executive producer Bruce Irving theorizes it was left as a prank by an early builder who wanted to "conjure an atmosphere of the future."

Who'd probably never know its origins, but we do hope to have an expert date it. Meanwhile, no one is more impressed than Karm. "In twenty-five years of working on old homes, we've never found anything really cool," he observes. Well, now. —W.C.

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PHOTOS COURTESY OF J.M. McLAUGHLIN



THIS LANDSCAPE CONTRACTOR
ROGER COOK TURNS AN
ERODING HILLSIDE INTO A
LUSH PERENNIAL GARDEN

MAKING THE GRADE



At this hillside garden in western Massachusetts, black-eyed Susans and Joe Pye weed flank a rustic staircase.

A house perched on a hill seems like a nice idea. After all, building up high usually affords a view, and land with a little rise and fall is a lot more interesting than endlessly flat terrain. But while a gentle slope may be a natural asset to a landscape, a steeper incline can present some challenges—specifically, how to divert rainwater runoff and stabilize the terrain to prevent erosion.

Sometimes it is possible to mitigate a slope by regrading it or terracing it with retaining walls—expensive steps that usually call for professional help. But you can successfully landscape without major earthmoving, according to *This Old House* landscape contractor Roger Cook. “Almost no slope is too steep for plants,” he says. “But if you don’t prepare and plant

continues

BY JOSE GARIBAY PHOTOGRAPHS BY KIMBERLY CLINEFF

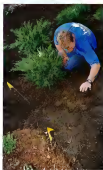


in right, your seeds, soil, mulch—and concrete—into the place—just wash away in the rain.”

Rogers demonstrated the right way to landscape a slope during a recent project with Beverly, Massachusetts, landscape architect Laura Rutledge; the results are shown here. The homeowners wanted to cover their hillside with an informal flower garden that would change with the seasons and blend with the open field below. But the 6,000-square-foot site—extending from a basement patio east to the house—down to the bottom of the hill 20 feet below—slopes downward at a 25-degree angle. They weren’t able to race the grade by expanding the footprint of the slope because it is surrounded by conservation land. So they laid out a plan to turn the hillside into a regenerative site for a colorful perennial garden.

LEFT, TOP AND BOTTOM: Boulders anchored during excavation were placed randomly as the dirt and clay into the hillside to anchor it. **ABOVE:** Roger Cook preserves the planting bed by raising out a fast-draw layer of enriched topsoil. **RIGHT:** To cover the slope quickly, large spruce-fir plants were placed closer together than usual.

[continued]



CHANGING YOUR GRADE

If you want to do any significant earthmoving, whether to level out a slope or break a retaining wall, hire a professional—it’s best for the planning phase. These projects require careful engineering. If they’re not done properly, the result can be serious erosion, changing runoff into eroding properties, and if you’re in a retained, polluting drinking water. Depending on the severity of the problem, you will need to enlist the help of at least one of these pros: landscape contractor (landscape architect, landscape designer or soil engineer). They can also help to get the necessary permit from your town. “In some states, any job that involves more than 40 cubic yards of soil or steep slopes requires a grading permit,” says Peter Chalked in, a planner for Winthrop, California. “That means if you are going to dig, move, or deliver/dump loads of material, your local building department will want to review the plan.” You may also have to install temporary fiber fencing around the project until vegetation covers the exposed soil.



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[illegible]

The *Euro index* of business for Russia and Ukraine was in addition lower

It was as if the rulebook was to be changed so that the ball would be in play at the start of each round and

change in place." Bontrags says. Add-



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that leads down to the pool, and a second informal set of steps made of flat boulders that can diagonally across the site.

PLANTING THE SLOPE

With an effective drainage system in place at the top of the hill, the slope only needed to absorb the water that fell directly on it. The plants themselves help slow runoff so their roots—and the soil around them—have a chance to absorb it. Steve Rogers and Kathleen were striving for a natural look over a large area, they arranged the plants in waves. "You'd never be able to see shiny specimens out here and there on the hill, so we created huge waves of color," says Kathleen. "It's almost like an impressionist painting." Perennials such as Joe Pye weed, black-eyed Susans were grouped by the dozens, with individual plantings of tall ornamental grasses placed between the exposed boulders and near the edge. Shrubs such as rose of sharon, Arnold chime loqueline, and dwarf winged burning bush add seasonal interest, while low-growing perennials and ground covers such as sea green fargesia juniper and fibrous cyperus provide year-round color. The result is a striking contrast of shape and texture.

Rogers' planting strategy was to fill in bare ground in a hurry. He skipped the standard quart-size nursery stock in favor of larger plants in one-, two-, and five-gallon containers and placed them close together in a wave. "We didn't have time for little plants to mature—we needed them to fill the slope so that their roots would hold the topsoil in place before everything was washed away," he says. "And if something was used for planting 11 or 24 inches apart, we were with it."

To jump the hill, he said his crew contacted the soil, then had down some down a foot of his perennials topped—a mixture of compost, sand, and loam. "That gave plants a big leg of autonomy and the freedom to spread their roots quickly," says Rogers. Standing at the top, they

ABOVE: Surrounded by mixed plantings of evergreens, ornamental grasses, and seasonal flowers, large boulders become landscaping focal points.

ABOVE RIGHT: A soil alone drainage system with stone drainage is a retaining element and provides resting spots along the way down the hill.

OTHER WAYS TO TACKLE A SLOPE

Rogers took soil plants, boulders, and steps to secure the hillside shown on these pages. Here are some other approaches.

RETAINING: Using retaining walls to control erosion and create flat areas for planting is as old as farming itself. Stone, brick, heavy wood timbers, interlocking concrete blocks, or poured concrete can be used to build a series of retaining walls that step down a hillside. Walls over 3 feet high—whatever the material—should be engineered. Plans for them will include a footing, a well-thought-out drainage system both within the wall and away from it that prevents it, and some help in keeping it upright despite the force of wet soil trying to push it over. The help can come in the form of tie-backs (often called deadends) that run from the wall back into the hillside, or it can also be built in a battered wall (gradually stepped back—off vertical—into the hillside).

REGRADING: Depending on how steep your terrain is and how much land you have, a landscape contractor may be able to remove or replace your slope using heavy equipment. The job involves cutting and filling, removing soil from high areas and adding it to low areas to even out the slope and to make sure runoff is directed safely away from structures and neighbors.



ROCK GARDEN: There are two kinds of rock gardens: those that take advantage of existing ledges or outcrops and those that are created by adding large stones to a focal point of the design. Both have merit well on a slope. Tracked-in rock can be half-buried in the soil-to-integrate method, where they're randomly placed or lined up as riprap (on intervals with a boulder). Small native plants or low-spreading succulents growing at the cracks and around the small shallow crevices of soil from within and around large waterfalls contrast to the stone background.

LAWN: Grass forms a blanket of small roots so it can be a good way to prevent erosion. You'll need to lay it in a short sward since seeds are likely to wash away before taking hold. But forget turf if the slope is any steeper than 25 to 30 degrees. And be aware that even a 14-degree pitch makes mowing difficult—very dangerous.



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worked their way down the hill, using nearly 1,000 plants in all.

On projects with slopes steeper than 40 degrees, Rager sometimes uses landscape netting to further secure the hillside, though it depends on the soil. He sketches a wide-landscape style, then cuts holes for each plant and tucks it with mulch to hold the fabric. He was able to drop that step here thanks to the use of his specimen plants, their tight spacing, and good control of runoff.

ADDING IRRIGATION

An automatic irrigation system was a must for this hillside. "It dries so fast, so it goes hot and dry," says Rager. And it's big, making it almost impossible to water by hand. So after all the plants were in place, irrigation lines were buried. They were attached to sprinkler heads that pop up about 2 feet when the system is activated. "Turning the watering system on last means you can walk the pipes around the plants, instead of not water," he says.

Almost all of the slope's irrigation is handled with a single line of

existing sprinkler heads along the ridge. "The pitch helped us out, because with the ground sloping away, the sprinklers are able to shower water a lot farther than they do on flat ground," Rager says. A few additional heads are located at the base of the hill, where the higher sprinklers don't reach. The system is a medium-size drip system—heavy enough to carry through the air but light enough not to clog anytime when they head. It's programmed to water for half an hour early every other morning, unless there has been significant rainfall.

The final step was to spread a 3-inch layer of pine bark mulch over the hillside to retain moisture around the bedding roots and help with the soil. Now, a year later, the plants completely cover the terrain, crowding out weeds and the dry dog soil. What was once a slope marked by patches of erosion and struggling, scabby growth is now a well-ordered garden flush with color and securing the hillside—for good. ■

For more information about landscaping a steep hill, go to www.hillsidehouse.com or download *Online Keyword: The Hill House* and type "Slope" in the search box.

PLANTS FOR SLOPED LOTS

The plants suggested here will thrive in most regions of the country. To determine whether they will survive the winter in your area, we've included the coldest temperature at which they tolerate. (Only those that tolerate coldest minimums of summer heat and humidity.) For a list of plants that are best suited to your soil and climate, check with a local nursery or your county extension

office. It is listed as Cooperative Extension under County Government in the phone book. Or go to www.wisconsin.edu/gov and click on Local Extension Offices. If you live in a hilly or mountainous area, they should be able to suggest numerous local plants that are especially effective for erosion control or well suited to growing on a slope. —Debbie Davis

Perennials and Ground Covers

Bugleweed ▶ (Plantain)
tolerant to -40° F

Candytuft (Clematis)
tolerant to -40° F

Drifts (Hemerocallis)
tolerant to -40° F

Gregory's Blood
sedum (Sedum)
tolerant to -30° F

Dwarf fountain grass (Panicum
capillare) (Panicum)
tolerant to -40° F

Upright (Liriodendron)
tolerant to -30° F

Spreading (Liriodendron)
tolerant to -30° F

4-Way yellow (Liriodendron)
tolerant to -30° F

4-Way yellow (Liriodendron)
tolerant to -30° F

4-Way yellow (Liriodendron)
tolerant to -30° F



Low-Growing and Spreading Shrubs

Carry ashburner (Cornus)
tolerant to -40° F

Creeping catanther (Catanthera)
tolerant to -20° F

Green-leafed (Liriodendron)
tolerant to -30° F

Cultural (Liriodendron)
tolerant to -30° F

One-Low (Liriodendron)
tolerant to -30° F

Hybrid (Liriodendron)
tolerant to -30° F

Purple-leaf (Liriodendron)
tolerant to -30° F

St. John's (Liriodendron)
tolerant to -30° F

St. John's (Liriodendron)
tolerant to -30° F

St. John's (Liriodendron)
tolerant to -30° F

Evergreen Shrubs and Ground Covers

Creeping juniper (Juniperus)
tolerant to -40° F

Japanese yew (Taxus)
tolerant to -30° F

Shore juniper (Juniperus)
tolerant to -30° F

Shore juniper (Juniperus)
tolerant to -30° F

Shore juniper (Juniperus)
tolerant to -30° F

Shore juniper (Juniperus)
tolerant to -30° F

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tolerant to -30° F

Shore juniper (Juniperus)
tolerant to -30° F



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Castle Levens designed and built this "Secret Garden Gate," which features the plants and animals that thrive in the Pennine hills—largely where it is hidden. The piece, made of steel that has been heavily dulled and "aged" here and there to look like the natural stone and roughen edges in and out of the foliage, is a work of art from one side to the other.



HEAVENLY GATES

A FATHER-AND-DAUGHTER TEAM FORGES ONE-OF-A-KIND WORKS OF ART

BY MAUREEN CLARKE PHOTOGRAPHS BY MACAL BLANCH

Gates can serve many purposes. They can keep out unwanted visitors (the job wrought-iron gates were assigned for in the Middle Ages) or provide a gracious point of entry to a home or garden. They can block prying eyes or frame a view in the landscape. And in the hands of master blacksmiths, gates can also be dazzling works of art.

Greg Lowett is such a blacksmith. At his forge near Boyertown, Pennsylvania, he creates what he calls "sculptural art objects," architectural gates in steel and copper that adorn dozens of driveways and gardens around the mid-Atlantic region. "People who might not want to spend \$75,000 an art will spend that much on something with a function," Lowett observes. Indeed, that's the starting price for one of his double-hinged, counter-opening, electronic driveway gates (hinged, manually operated garden gates begin at \$10,000). And while you could purchase a ready-made garden gate at a home center for a few hundred dollars, it wouldn't make the same sort of statement.

"Your imagination is the only limit to what can be done in steel," the artist says. He should know: He's used it to make an archway

of giant transporter seats, a gate of stampered horses, even a life-size sculpture of an exhausted tree. "You can stretch it, stretch it, put in space with it, and get your strength from a steel element. And it looks great with copper, which isn't strong enough to work as a primary metal."

Lowett, who is largely self-taught, took up blacksmithing at the age of 23. Now 37, he's passing his skills on to his 30-year-old daughter, Camille, who designs and helps execute some of their commissions. Father and daughter work in a 6,000-square-foot barnlike studio filled with handtools upon hundreds of tons, hammers, chisels, and punches. Two forges operate at 3,000°F; enough to turn black metal shiny red-hot. Old-fashioned blacksmith tools, like a pedal-activated treadle hammer, share space with the latest technology. One of these favorite machines is the plasma cutter, which has an electric eye that can trace a shape as drawing and cut the carbon-steel into metal.

"Without a lot of equipment, I couldn't work at this scale," Lowett says. "It's what separates me from other blacksmiths. I'm using semi-industrial techniques, but I'm also using whatever machinery is necessary for my art." With that, he dons a welding shield and chisels gloves, takes a scanner-like tool to the rubens, and starts making sparks fly.



Blacksmith Greg Lowett and his daughter, Camille, work in a barn-like studio equipped with top forges, an anvil, a five-ton bridge crane and welding tools of all kinds. Here, he attaches a rolled-plate branch to a 20-foot-tall steel tree, his latest work in progress.



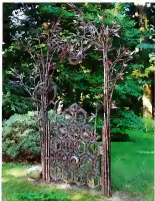
POWERS MOMENT

To make the electronic, double-hinged driveway gate, Lowett welded the major support elements with a technique called rivecaul, which involves bringing out two sheets of heavy gauge copper to form curved curves, then welding the pieces together to form a sort of metal joint. The distance between the gatesides presented a technical challenge. For safe passage of vehicles, a driveway opening should be about 34 feet wide, but these old stone piers were only 12 feet apart. To maximize clearance, Lowett set the gate on the house side of the posts and carved it into the property. The art, which echoes the low, curved stone walls on either side, gives the entrance an ornate quality. Lowett says: "He named it 'Monsi's Moment' because the play of sunlight on the renaissance arch and the gate reminded him of the artist's work."

BAMBOO AND IRON GATE

This manually operated, single-hinged garden gate draws on the tradition of Japanese iron, originally stylized organic elements, originally used in family crests but assimilated in modern times into popular Japanese design. Lowett thought the strip form—burlins, concentric discs, and arcs—would lend themselves well to metal.

Each hexagon is composed of 46 hand-forged parts. The gateposts, which join at an arch, are made from a combination of heavy-gauge steel pipe and solid bar stock, in the form of bamboo stalks, with fins provided where the knuckles would be. "By nature, bamboo is very strong, but flexible and light," Lowett says. "The trick was to simulate this lightness and still support the weight of the gate."





COMMISSIONING A GATE FOR YOUR HOUSE

SCOTT LANKFORD, an artist-blacksmith in Ann Arbor, Michigan, and a former president of ABAANA, the Artist-Blacksmiths Association of North America, suggests you take the following steps before commissioning a gate.

- Find a qualified artist-blacksmith. "If you're a satisfied customer, it's the best way. You can also call or write ABAANA for a list of blacksmiths in your area (P.O. Box 136, Farmington, GA 30629-0136, 706-329-0120 or email at info@blacksmiths.org). ABAANA has 5,000 members and 65 national affiliates."
- Be sure you're familiar with a blacksmith's work. Before you commission a gate, ask to see photos or samples of finished projects. Visit the studio. Ask to see an installed gate in your area. "Given the weight and strength of the material, if a steel driveway gate is still hanging and operating smoothly after five years, you can bet it was built and installed properly by a qualified professional," says Lankford.
- Get a ballpark idea of cost and agree on a price before work begins. Prices vary across the country, but Greg Levitt's rates are representative: \$75,000 to start for an electric driveway gate, \$10,000 for a manual garden gate. Ask whether the blacksmith is making all the components or buying them. "As a rule of thumb, if a blacksmith is buying parts, he's halfway there," says Lankford. "So a fabricated gate should cost about half as much as a completely hand-forged piece."
- Know who is going to install and maintain the opening system—and how much it will cost. "Anything involving custom electronics will need maintenance," says Lankford. "Find out who will do the work and what it will cost. Just ask if there is a warranty if something goes wrong within the first year." A quality electric opening system can cost as much as \$10,000. Some are installed directly on the gate itself, but Levitt's go-to-the-robot Robert Sherris recommends a hydraulic operating system, which is installed in the ground and is barely visible.

PRIVACY PANS ENTRENCE GATE

The client who commissioned this gate wanted it for privacy so in designing it, Canella Levitt fashioned a chaise as the element for lengths of thirteen feet wide, which are mounted behind the two longest panels. To keep the gate from looking too forbidding, she left an open scrollwork border across the top, above eye level. The symmetrical design is made from solid pieces of steel bound at the center by "coolie" and flared at either end. An ancient blacksmithing technique, collars are made by wrapping hot metal around the gloves to be held together this way you would need a rubber band around shins of entry. As the collar cools, it shrinks and holds tight. Before installation the gates were sandblasted, then primed and painted.

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LEAVING THE FOLIOVOROUS JARDINER

To ensure that this 12-foot-tall arch would fit its site perfectly, Leavitt built it on a concrete in the shade. After it was installed, he added the rustlike scrollwork that appears to steady the piece on its stone pillars—though the 2,500-pound arch is actually supported by its own weight and locked in place with five 1/2-inch steel pins. “It’s mechanically ingenious,” Leavitt says. “It could probably sit on its own, without the pins.” The copper rods form an the bottom hold lights, as do the blown-glass flowers by local artist Will

Douglas. Leavitt let the piece oxidize for two months before he coated it with a wax. Once finished, “the metal looks like bronze—like a well-worn sterling,” he says. ■

To see the custom-made iron sculpture created for a *This Old House* project house, go to www.thisoldhouse.com or America's Online Keyword: *This Old House* and select Showcase House from the list of projects in the Television Programs section.

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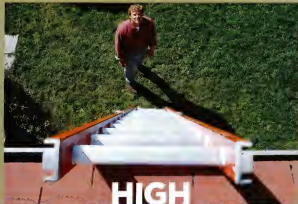
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HIGH ANXIETY

A GUIDE TO WORKING SAFELY ON LADDERS

BY JOSEPH TRUBIN PHOTOGRAPHS BY SEAN WALKER

As a kid, climbing up a down wooden rung to a tree house or going even higher, limb to limb, probably didn't faze you. These days, though, scaling such heights may give you pause. And it probably should, given how countless many folks are around ladders—and the frightening injury statistics that result.

What it comes down to is this: Most people don't know all they need to about ladders before tackling such simple tasks as cleaning gutters or painting gable-end trim. First, there's the matter of setup. "I know a lot of people—professionals, even—who have been hurt only because they tried to take a shortcut when setting up their ladders," says Tom Sells, *The Old House* general contractor. Even when the ladders are placed right, folks routinely get into trouble by reaching too far to one side, climbing too high, or juggling tools in both

hands. Or they just plain use the wrong equipment for the job. That can mean anything from setting up an extension ladder on uneven ground without a leveler to using a closed step ladder to scowl a wall.

Using the wrong ladder, or the right one in the wrong way sends more than 164,000 people to the emergency room each year. The good news: You can avoid accidents if you know your equipment and how to use it properly. That means reading and following all the instructions that come with your ladder (and calling the manufacturer's customer service line if you still have questions). But most important, know your own limitations. If you don't feel comfortable on a ladder, get down. It's not the time to play the hero—you're better off saving your neck than your pride. [cont.]

THE RIGHT SETUP

In order to be safe, a ladder needs to remain stationary. Period. And setting it up right is at least half the battle. Here's what proper placement looks like.

Always look overhead for wires before you climb or set up a ladder.

Use a ladder stabilizer (or "mushroom") around windows, for greater stability, and to position yourself at a more comfortable distance from the work.

Never use ladder jacks higher than 20 feet. Above 10 feet, you must use a harness.

Position jacks on either side of back of ladder if the planks are in front. Use another ladder available for access.

Use only aluminum scaffolding planks (never for ladder jacks or bird wood planks) no more than 2 feet long.

Make sure ladder isn't too close to edge.

Use ladder jacks on Type I or II ladders only (see p. 173 for ladder rating information).

Hook ladder jacks onto two rungs of ladders.

Always position the fly section (the one with the name label) in front and make sure it overlaps the base section by at least 5 feet.

Position the ladder so that the distance from its base to the wall is one-quarter of the height of the ladder at its resting point, creating a 75-degree angle.

For a quick check on the angle of your ladder, shut the top 3 feet of your feet touching the feet and your arms extended over your head should rest on a rung at shoulder height.

Check rope and pulley to make sure they clear the edge of roof or eaves.

Extend ladder 3 feet above any surface that you're standing on.

Dig a 2-in.-dia gutter to keep it from being crushed by the ladder.

Don't rest an extension ladder against a tree or pole where it can rotate and fall.

Hook both rung locks securely over the rung, and tie off the rope on a lower rung.

Make sure any doors held as a ladder is leaned or supported.

Check that any supports (bricks, blocks, etc.) are level.

Open end lock will open.

Keep jacks free of paint—when you hole defects on wood—add some of grease and dirt.

Place feet on level, solid ground.

On hard, dry ground, not feet, both must be placed on feet. Use of slippery objects, logs and others.

Remove all tools and materials from the ladder when it's not in use.

ILLUSTRATION BY LAM WORKSHOP

WORKING UP HIGH

First-time homeowner and *TOW* host Kevin O'Connor steps up and demonstrates how to work safely on a ladder.

ON EXTENSION LADDERS

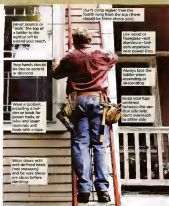


MOVING AN EXTENSION LADDER

- To raise the ladder into place, lay it on the ground with the feet braced against the side of the house, then walk it upright hand over hand. Once the ladder is as close to vertical as possible, walk the base out to create the proper 75-degree angle.
- Dig out the ground to make sure the feet are level.
- Remove all tools and materials from the ladder before moving it.

STEPPING ONTO THE ROOF

- Be sure the ladder extends 3 feet above the point of contact.
- Hold the ladder securely with both hands and swing one leg around to step off onto the roof.
- To get back onto the ladder, hold it and swing a leg onto the rung while facing the roof, never step over the top rung or attempt to go down with your back to the ladder.



Never bounce or walk. The top of a ladder is the worst or will to extend your reach.

Your hands should be free to ascend or descend.

Wear a tool belt, including a tool or two for power tools, or take and leave materials and tools with a rope.

Wipe shoes with well-worn treads (not skivvies) and be sure shoes are clean before climbing.

Don't climb higher than the fourth rung from the top (there should be three above you).

Use wood or fiberglass—not aluminum—ladders anywhere near power lines.

Always face the ladder when ascending or descending.

Hold both feet centered between the vertical side rails. Don't overreach on either side.

ON A STEPLADDER



Don't leave ladders unattended, especially around children.

Allow only one person on the ladder at a time.

Keep your hips centered between the vertical side rails. Don't overreach to either side.

Never stand on the top rungs or climb them.

Climb only the front of the ladder, never the back.

Don't climb higher than the third rung from the top (there should be two steps above you). Instead, the top rung never sit on the top.

Never work on a stepladder against a wall and climb it. It can slide out from under you.

BUYING GUIDE

Trying to pick the right ladder from a 20-foot-high stock at the home center will leave you dizzy. We've answered some questions that will help you sift through the options.

WHAT SHOULD THE LADDER BE MADE OF?

Material	Pros/cons
Wood	Economical and easy to shop longer (stepladder ladders cut less). Wood is nonconductive when clean and dry, but it is very heavy. Rungs or heels should be set into rails and allow for ratcheting.
Aluminum	Lightweight, rigid, and strong, but conductive (never use near electrical wires).
Fiberglass	Strong and corrosion-resistant, it is also nonconductive for use near electrical lines. But fiberglass is expensive and relatively heavy.

WHAT DO DUTY RATINGS MEAN?

Type	Recommended Use	Weight Capacity*
Type III	Household light duty	200 lb.
Type II	Commercial medium duty	225 lb.
Type I	Industrial heavy duty	250 lb.
Type IA	Industrial extra-heavy duty	300 lb.
Type IAA	Professional special duty	375 lb.

*Maximum load capacity of all materials and sizes.

HOW TALL DOES YOUR LADDER NEED TO BE?

STEPLADDERS		EXTENSION LADDERS	
To reach 360 high	Buy this ladder size	To reach 360 high	Buy this ladder size
7 feet	3-foot	15 feet	16-foot
8 feet	4-foot	16 feet	17-foot
10 feet	6-foot	18 feet	19-foot
11 feet	7-foot	20 feet	21-foot
12 feet	8-foot	22 feet	23-foot
14 feet	10-foot	24 feet	25-foot
16 feet	12-foot	26 feet	27-foot
18 feet	14-foot	28 feet	29-foot
20 feet	16-foot	30 feet	31-foot

LADDER ACCESSORIES

A jury-rigged ladder setup is an accident waiting to happen. Investing in some of these products can make working on a ladder safer and more comfortable.



◀ TOOL HOLDERS

WHAT THEY ARE: multipoint-rated sprong that slip over the top of a scissor ladder or the rung of an extension ladder and are secured with straps or hooks that hang off rungs.

WASH YOUR GUN Fold inside or gunnery cover to keep barrels free and protect anyone on the scene and from falling objects.

SHOWS post-car book, \$10; multipocket card holder, \$17 both from Wemyss



LEVELER ▶

WHAT IT IS: A paid endorsement that lists or cites, under the number 101 on the list, an

WHAT IT DOES: compensates for uneven ground to keep a ladder on even footing.

SHOWME bolt-on ladder
jewelry from LevelLox, \$95/for



STABILIZER ▶

WHAT IT IS: A two-armed, U-shaped device that clips onto the top rung of an extension ladder.

WHAT IT DOES: holds the ladder away from falling and allows it to swing sideways.

Q&A: Quarterly Strategist
Eugene Wheeler, CEO



4 LADDER INDEX

WILL THEY ~~also~~ *have* been
that long off the range of a
Total 100 M. collection budget?

WHAT THEY DO: hold panels or staging between two ledgers set at the same angle to create a working platform.

SECHINE two-rung ladder
jack, from Werner \$100



▶ SURFACE PROTECTORS

WHAT THEY ARE: rubber pads with removable fleece covers that bolt onto the topmost ladder rung, or rubber covers that slip over the ends of the ladder rails.

WHAT THEY CAN protect your home's siding from being stained by the weather.

Shoreline, customers ladder mounts \$30 and True Grip surface protectors \$30 locally from Windsor.



For more tips on working safely on ladders, go to www.fishbase.org or www.AmericanOnline.com. Keyword: This Old House and type "ladder" in the search box.



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NORM'S NOTEBOOK

RING-TESTING A GRINDING WHEEL



I don't use a bench grinder much, but it's a handy tool to have around when I have to reshape a badly dulled chisel or sharpen my lawnmower blade. The speed involved with that grinder throws off your focus, but a cracked wheel is far more dangerous. It can disintegrate without warning as it's spinning and send fragments flying with almost explosive force.

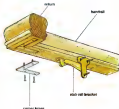
The cracks, which generally occur where a wheel is handled or stored carelessly, are often too small to see, but you can leave if they're there. So before mounting a wheel—even a one that's brand new—support it with a pencil, a nail, or even a finger through the outer hole, and tap the edge gently with the handle of a screwdriver. If you hear a dull “thud,” don't use the wheel. But if it “rings,” it's safe. The best place to strike a wheel is a point about 45 degrees off vertical.

INSTALLING HANDRAIL RETURNS

More accidents occur on stairs than in any other part of the house, which explains why building codes are especially fussy about the details of stair's design. One such detail is the handrail return, required by some codes to prevent loose clothing from catching on an open handrail end. Most parts companies offer fancy curved returns to match their handrail profiles, but it's easy enough to make your own right-angle return, and it doesn't cost anything extra.

First, make both ends of the handrail as shown in the illustration, making sure that the two pieces you cut off are at least 6 inches long. Mount the rail temporarily on the stair treads, with the angled faces toward the wall, and measure the distance between the point of the top piece and the wall. Now take the angled piece you cut off the opposite end of the rail, cut it square end to length, and attach the return to the handrail with wood screws and predrilled finish nails. Do the same at the rail's lower end with the other curve. When the glue sets, sand the return to eliminate sharp edges.

It's not necessary to attach returns to the wall, but you can reinforce the return if you like with a 3-inch, flat-metal corner brace screwed into a stud you've chiseled into the underside of the handrail.



“ATTRACTIVE” STUD FINDER

Sometimes the easier way to find a stud in a finished wall is by locating the drywall screws or nails with a magnet. Any magnet will do, but a super-strong rare earth magnet works best (save for battery room). Its iron-rich face won't stuff itself as you slide it along the wall in search of metal. And it's powerful enough to find fasteners with out leaving to be directly over them. In fact, it'll just about pop out of your hand whenever it's anywhere near metal.

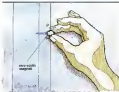


PHOTO: JIMMY K. SMITH FOR NORM'S NOTEBOOK

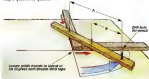
JIG FOR DRAWING AN ELLIPSE

An ellipse is an elegant curve often used in tablesaws, downspout arches, and cabinet doorbells, to name a few instances. There are several ways to draw an ellipse, but I find the jig to be the easiest.

Lay out a piece of scrap wood slightly longer than half the length of the ellipse, as shown, and fit a pencil through a centered hole drilled near one end. Now, measure from the pencil one-half the width of the ellipse (B) and drive a nail through the wood at the same distance, as shown. Then measure from the pencil one-half the length of the ellipse (A), and drive another nail. The arm will follow an L-shaped guide made out of a couple of straight boards for the corner of a piece of plywood held down with double-sided tape.

To use the jig, place the nails against adjacent edges of the guide, as illustrated below. Now rotate the arm, making sure the nails always remain in contact with the guide as they slide against their respective edges. That's all there is to it. The pencil will draw a perfect quarter ellipse.

To complete the ellipse, you can either cut out the quarter and use it as a template for drawing the others, or just reposition the guide and draw the entire ellipse quarter by quarter.



LEVEL BASELINE FOR SIDING

A spirit level may be the perfect tool for a lot of jobs, but not for leveling the first course of siding (shingles or clapboards) around a house. That's because each time you reposition a level, you lose accuracy. Instead, I set up a bubble level, which is usually a spring scope that extends horizontally on a tripod. Place the tripod on solid ground far enough from the house to let you see as many walls as possible. Then level the scope and look through it at intervals as you drive a plumb line to mark points at outside and inside corners of each wall. When you're done the walls you can see, move the level to another side of the house and extend out mark around it again. Use it as a benchmark to repeat the process on the other sides of the house. Finally, connect the points with a chalk line, and you'll have an absolutely level line to work from.

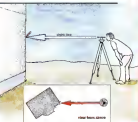
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SAW BLADE PROTECTION



The carbide on the teeth of circular saw blades is sharp but very brittle. Even tossing blades into a drawer for storage can damage them. When you're not using a blade, hang it on a nail or a pegboard hook. If there's more than one blade on a hook, separate them with spacers made of corrugated cardboard. If you don't have hanging space, keep blades in the packaging they came in and pack them in a cabinet.

Also, when you change blades on a table saw, don't put them directly on the saw's table—it may scratch the teeth. Instead, place them on a scrap of plywood or some other, softer surface.



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ON THE JOB pg. 12-20

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Spade shovel: Sencor by Sencor Manufacturing Co., Inc., 812-323-2960, www.sencor.com
Cordless drill: Power-Cable Cordless Drill Driver/ Wacklight Kit 9506R, 800-321-9443, www.powercable.com
Tap measure: Stanley PowerLock, www.stanley.com
Leaf shovels: Our thanks to Jan Rink, Midwest Kuhn Company, Warsaw, IN, 800-815-7353
Knocking Mold in Bay: For more on mold prevention, see The Mold & Moisture Prevention Case Study Report on the National Center for Housing and the Environment Website www.housingandenvironment.org

BOOK CALLS KAT AND GREGG pg. 20-22

Architect: Robin Zuba, Robin Prince Zuba Architects, PC, AIA, Yorktown Heights, NY, 914-361-2223
Cabinetry: Neil Hirsch, Woodward Architects and Woodworking, Bedford Hills, NY, 914-616-7450
Casework: Tibbo doortyle in cherry, Flato Woodwork, Fargo, MN, 800-328-3324, www.flato-woodwork.com
Range: 48-in., Five Star, Cleveland, TN, 800-553-7704, www.fivestarmfg.com
Refrigerator: 48-in., Northland, Greenville, ME, 800-223-3806, www.northlandusa.com
Stoves: Elite Kohler #3332 Undermount, Kitchen Faucet Kohler #121777 Fairfax, Cook sink Kohler #1308-1 Pro Cooktop, Cook sink faucet Kohler #6243 Proseries, Features all dough Test Flaming Supply, Valhalla, NY, 914-734-1464, top-rated side chair: Parsons chair in fabric #3411-80, Thompsonville, 800-225-0365, www.thompsonville.com

ASK THE OLD MANS pg. 40-42

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www.pasadena.org/courthouse/interior.htm
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Iron fencing: Summit Iron Works Company, Covington, KY, 899-481-1481, www.summitironworks.com
Gifts: Good Things, New York, NY, 212-989-8403, www.goodthingsnyc.com

FIND pg. 58-63

Antique cupboards: Paul & Paul, Inc., Downingtown, PA, 610-269-6699, www.paulandpaul.com
Q&A—
Mechanical seats: Jax and Bill Boeing, Syracuse, IL, 815-794-3134
Handcrafted pinque: Nicholas M. Davis, New York, NY, 212-473-3311
Art and Crafts: Chas Kennedy, e-modern, Northampton, MA, 617-584-6104
Painted wagon: Bill Spoor, Bill Spoor Auction Company, Easton, RI, 401-555-8339, www.billspoor-auction.com

FROM THE BEHIND OF STAG pg. 62-65

Bulvers: Vancouver North America Handgunners, Windsor, Ontario, Canada, 800-387-7373, www.vancouverbulvers.com
Air exchangers: Libbrecht, Nutch Knobs Inc., London, Ontario, Canada, 519-457-1504, www.libbrecht.com
Vectors: www.vectorsolutions.com
Indoor-outdoor rest: Tikas Control Systems Ltd., Vernon, BC, Canada, 250-545-7749, www.tikascontrol.com
Bedroom floor: perle, Richa, Lenberg, WI, 800-347-2445, www.richa.com

TALKING SHOP: GARY AND WHEELBARROWS pg. 72-74

Large cart: Foldo Utility Cart, Tiple Mtg. Inc., Spokane, WA, 509-534-5336, www.foldo.com
Powered cart: LITVair Silver Edition by The CartCraft Company, Nash Kington, RI, 866-518-2278, www.litvair.com
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#P96 by Bearwood Industries; 418-234-3139;
www.bearwoodindustries.com. **Feeding wheelbarrow**. Alltop WheelEasy LE Model #21162 by Alltop Home and Garden, Bellingham, WA, 800-426-4833, www.alltophomedesign.com.

STREET:
REPAIRING DOTTED WOOD
pg. 14-53

Epoxy Repair-
 Flow-Tec Inc. epoxy/Primer/Sealer epoxy primer
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 NJ, 603 264-6040, www.advanced-repairs.com. Resin treatments focus
 inseparable solutions, Rockford, TN, 800-266-
 0870, www.micacoat.com.

Wyle World of Epoxy—
Industrial Fibre Kwik Systems Three Parties, Inc., Auburn, WA, 800.313.5514, www.wylenet.com

Total Applications & Databases—
Midec Varnish, Varnish Construction, Prochem, MA, 878.435-9985. **Gelcoat**
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Construction Adhesive, 800.999.8923, www.adheship.com

Polyurethane glass **Combs Glass**
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MA, 781.734-1333. For further
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Pantamode, Secaucus, NJ, 866-282-7193, www.pantamode.com

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Architect: Lynn Hopkins, Lexington, MA; 781-863-2585. Landscape designer: Karen Howard, Howard Garden Designs, West Newton, MA; 617-344-7149. Contractor: Haley Platt, Walter H.B. Platt Architects, Braintree, Massachusetts, Inc., Canton, MA; 978-448-9963, www.plattarchitects.com. Interior paint: Montgomery White by Benjamin Moore Paints; 800-262-6363, www.benjaminmoore.com. Etc.

Web page: Skylands Colors, Caddis Springs #14 by Martha Jarman
Photos, available through Scary 808-349-4338, www.scary.com
Electric coolers: Viking Range Corp., Greenwood, MS, 888-245

4641; www.kingkong.com. **Electric**
w/standing: **Wing Kong Corp**
Warming **radiant**: **Epicure Line**, **Danco**
Danisco Inc, **CA**, **800** 772-7778;
www.danco.com. **Dishwasher** **#D4796**,
Ardo, **800** 498-1877;
www.arido.com. **Hitachi sink**
Dishwasher **#K4345-40**, **Kohler**, **Kohler**,
WI, **800** 548-5535; www.kohler.com.
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TRANSFORMATIONS:
SMALL WOMEN
pg. 118-119

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 3446, www.eyerhaeuser.com Bill Weist,
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 932-7127 Retaining walls and steps:
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 Ashford, MA, 800-492-6812 Irrigation
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 Milis, MA, 336-576-8906.

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Artist-MacKenzie: Greg Levitt and
 Camille Levitt, Boynton, PA, 609-
 367-8167, www.greglevitt.com Gate
 installer: Robert Sherman, The Gate-
 keepers, Bradenton, PA, 410-310-1949
 Commissioning a Gate—
 Artist-MacKenzie: Scott Landon,
 Landon Metal Design, San Arico, TX,
 714-426-3733

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www.wernerladder.com
 Window step ladder: Lynn Builder &
 Scaffolding Co., West Lynn, MA,
 800-225-2190, www.lynnbuilder.com
 Ladder ladder: Leveltek Corp., Pomona,
 WA, 888-811-1723, www.leveltek.com
 For further information and safety
 standards: American Ladder Institute,
 Chicago, IL, 312-644-6610, www.americaladderinstitute.org Consumer
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 DC, 800-618-3772, www.cpsc.gov
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HGTV

BILMONT (1990)

The restoration of the 1907 Shingle-style house in Massachusetts included the removal of asbestos ceiling and removal of a kitchen.

HONOLULU (1994)

The renovation and expansion of homeowner Catherine Smith's beetle-damaged, antebellum 1850s bungalow took the show to Hawaii.

SANTA BARBARA (2000)

The poplar-lined walk to the water to raise the road on an 1800s California bungalow at sunny California.

DIY NETWORK

TUCSON (1997)

Plans for the 1930s Pueblo Revival stucco house included expanding the kitchen and patio area and building an outdoor courtyard and veranda, all against a breathtaking backdrop of Arizona mountains and desert.

BELTON (1997)

With the help of Julie Childs, Oliver Allen and Laura Ashby to name a few, The Old House turned an antique Colonial farm house in Massachusetts into a dream house.

LOCAL BROADCAST STATIONS

NEW ORLEANS (2001)

The Old House converted a once 1910 "vintages double" into a one family house, restoring the interior and restoring the facade.

WYLAND (1991)

The national episode of "Woods" in 1915 Colonial Revival-style house in Massachusetts, included new septic and heating systems, a new roof and chimneys, and repair of the wooden walls.



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syndicated television



PHOTOS: 2001: MICHAEL CHAMBERLAIN; 1990: JAMES WATTS; 1994: MICHAEL CHAMBERLAIN; 2000: JAMES WATTS; 1997: JAMES WATTS; 1991: JAMES WATTS



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